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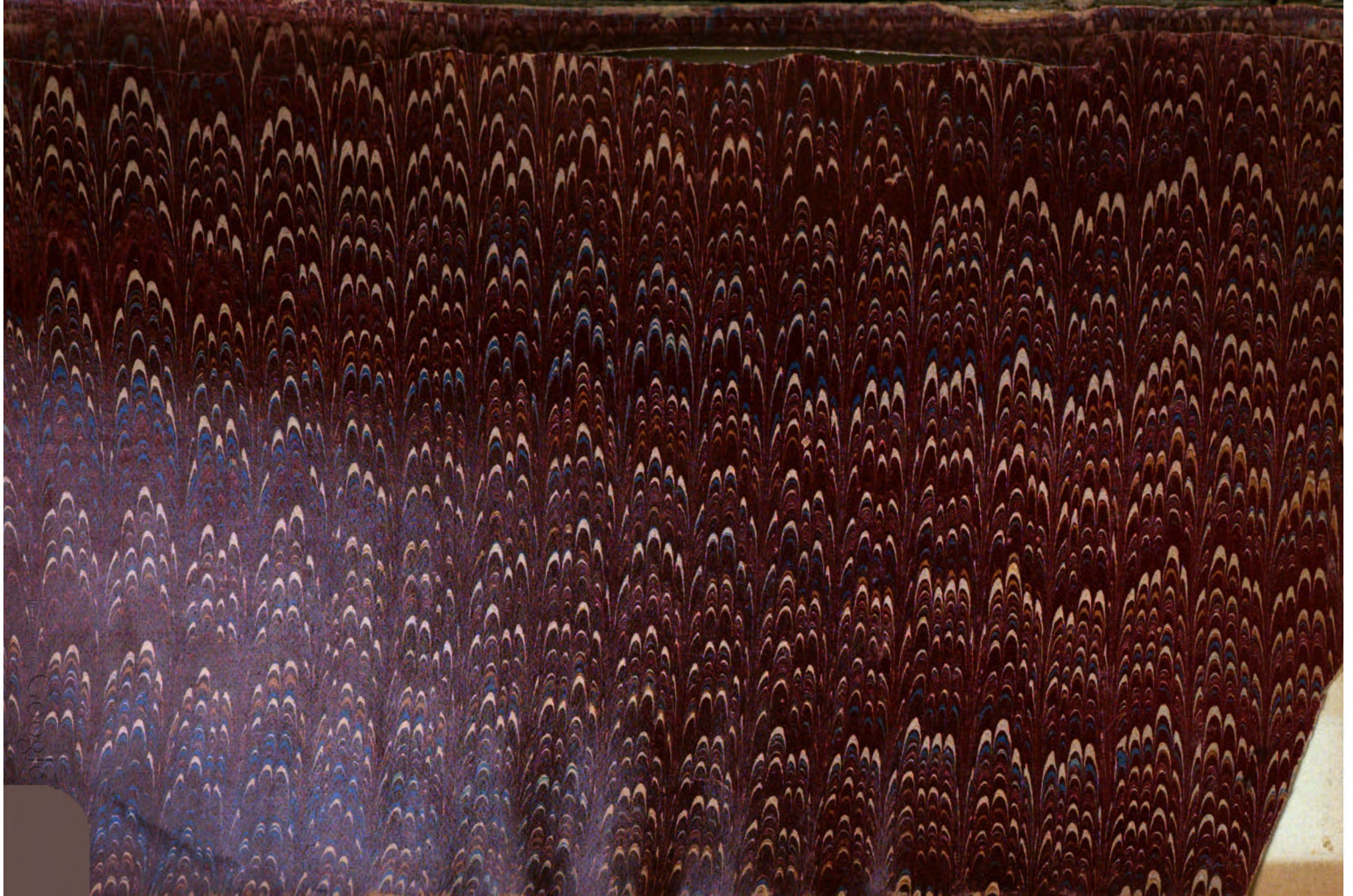

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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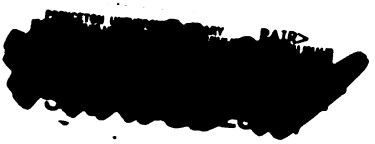

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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GEORGE CROOM ROBERTSON,

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No. 37.] [JANUARY, 1885.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—A CLASSIFICATION OF FEELINGS.[1]

BY CHARLES MERCIER, M.B.

III.

REFERENCE to our Table of Classes (MIND XXXV. 337), in the first division of this Essay, will show that the Second great Class of feelings consists of *those which correspond with interactions between the organism and the environment that primarily affect the perpetuation of the race.*

The number of feelings included in Class II. is but small, but the group is extremely well characterised, and its importance is immense. Feelings of this Class are divisible according as they correspond with relations between the Sexes or with relations between Parent and Offspring. Since the former are the more fundamentally important, they may appropriately be termed *primary* and the latter *secondary*.

The *primary* feelings of this Class, or those that correspond with relations between the organism and the opposite Sex, are again divisible into those in which the correspondence is direct and those in which it is indirect, the former being the Sexual Sensations and the latter the Sexual Emotions.

[1] Concluded from MIND XXXV., XXXVI.

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The Sexual Emotions are three in number: Love, Jealousy, and Modesty. The emotion of Love is a good example of the impracticability of classifying emotions according to their degrees of complexity; for under this one title are included every grade of feeling, from the simplest to the most compound. Underlying all its varieties there is the fundamental substructure of physiological craving, just as underlying every landscape there is the bare earth; and just as in some landscapes there is nought but bare or lichen-crusted rock, so in some natures there is nothing or little besides this craving. In other natures this substructure is covered and hidden by a luxuriant growth of higher forms of feeling—the appreciation of beauty, admiration, emulation, self-esteem, pride, vanity, self-devotion; the desire (or the fulfilled gratification) of sympathy, of confidence, of being highly appreciated, of possession, of power, and much else. So that, although these feelings are massed and consolidated into one grand emotion, and may properly be considered as a single complex feeling, yet this feeling so constituted shades insensibly into, and must in any classification be included under the same title with, the simple physiological craving—a feeling from which it differs as the tropical luxuriance of a Brazilian forest differs from the lichen-covered rocks of Spitzbergen. The one is primitive, simple, undeveloped, the other highly derivative, complex and compound. They are at opposite ends of the scale of complexity, of abstractness, of representativeness; yet they *must* be classed together.

The emotion of Jealousy need not detain us, the circumstance which arouses it being of sufficiently obvious character; but some notice of Modesty is demanded by the fact that in origin it is the most obscure and inexplicable of all the feelings. Strictly speaking, Modesty can scarcely be called a feeling. That the name is correctly applied to a phase of conduct is manifest, but it is not so much itself a feeling as the tendency to a feeling. It is the tendency to embarrassment in sexual matters, Embarrassment being the feeling corresponding with the discovery by others of that which we wish to conceal. If we make an effort to rid ourselves of the familiarity of the notion, and try to look upon it as a fact new in our experience, it will appear extremely strange that the sexual function should be kept wrapped in a cloud of mystery of our own creation. In what circumstances Modesty had its origin it would be difficult even to conjecture, though there is little doubt that once initiated it has been preserved and intensified by sexual selection, which at

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first sight appears antagonistic to it. Fortunately, for our present purpose, the manner of its origin is not material. It is enough for us to recognise its existence, and to assign it a place among other feelings.

The *secondary* feelings of this Class correspond with the relations between the organism and its Offspring or Progenitors. They are the Filial and Parental feelings. What differences exist among them correspond with differences in the relations, as for instance that between paternal and maternal feeling. In one case only can the correspondence be said to be direct in the secondary group —the case of the feeling entertained by a mother to the infant at her breast, and in this case the feeling, like the interaction, is doubtless unique.

CLASS III. *Feelings corresponding with interactions between the organism and the environment which primarily affect the common welfare.*

In Class I. we considered those interactions that concern the individual organism alone, looking upon it as an isolated being exposed to conditions that subserve or oppose its welfare. In Class II. we considered the conditions that influence the succession of organisms; and in the Class now under consideration we take account of the conditions that influence their coexistence. Man being a gregarious animal, all interactions between him and his environment have of course a twofold effect. If they directly affect the individual only, yet as he is a unit of a community they must indirectly through him affect the community of which he is a member. If they directly affect the whole community they must indirectly affect him as a member of it. But the distinction that we now have in view rests upon the bearing of the primary stress. Interactions of the first Class would affect the individual in precisely the same manner if he were an isolated being separated from all other individuals of his kind. Interactions of the second Class affect the individual as a member of his race. To an orphan celibate they have no existence, however intimate his other relations with his community, and the family-man would still experience them if he and his family were completely isolated from the rest of his kind. The interactions that we have now to consider affect the individual in virtue solely of his citizenship. They affect him not as an individual, but as a member of a society. Take away the society of which he forms part —leave him outstanding as an isolated individual—and

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the interactions become impossible; the feelings have no existence.

Communities, like individual organisms, have to struggle for their existence; and thus, in addition to the struggle for his own existence, each individual member of a community has to bear his share in the common conflict with the environment of the community; and with his relations to this wider environment a special group of feelings corresponds. Again, in his capacity of a member of a community, not only is the individual brought into relation to the environment of the community, but he is also brought into special relations to the community of which he forms a part. The society forms for him a special environment of itself—the social environment; and with his relations to this environment another special group of feelings corresponds. Hence arises a division of this Class of feelings into two Orders—those which correspond with relations to the *environment of the community* (the Patriotic Feelings), and those which correspond with relations to the *community itself*—to the *social environment* (the Ethical Feelings). While the distinction between these two groups is clear, their inclusion in the same Class is justified by a kinship so obvious that the patriotic feelings have often been included in the ethical. The subdivision of the Class is based partly on principles already utilised, and partly on variations peculiar to the new environmental conditions dealt with.

TABLE XI.

CLASS III.: Social-conservative Emotions. Order I.: Patriotic.
Genus 1: Environmentally-initiated.

Feelings corresponding with the relation to the organism of an agent that is	noxious to the community.	Patriotic Aversion.
	beneficent to the community.	Piety.

Genus 2: Organismally-initiated.

Feeling corresponding with the performance of an act on the environment of the community, for the benefit of the community.	Patriotism

Of the feelings of this group Patriotic Aversion or National Hatred is the most widely and deeply felt; and the reason is obvious. As in the struggle for individual existence, so in the struggle for national existence the most frequent and most weighty experiences have been experiences of antagonism; and therefore the feelings of

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antagonism are the most deeply organised. In the case of patriotic feeling the shades and varieties of antagonistic emotion are far less numerous than in the case of individual antipathies, and again the reason is clear. The community as a whole is obnoxious to the attacks of comparatively few harmful agents, and the ways in which these agents can affect the community are uniform when compared with the variety and diversity of noxious influences to which the individual is exposed. Hence the number of possible relations in which noxious agents can stand to the community at large is much fewer than that in which such agents can stand to the individual. Then, too, the various relations in which a noxious agent can stand to an individual are not only numerous but are well-defined. The difference between a blow impending and a blow struck on the individual is plain, manifest and unmistakable. It is driven into consciousness by the most powerful and direct of methods. It does not admit of uncertainty. But a disaster impending upon the community and a disaster inflicted are by no means so readily distinguishable. The knowledge may be gained only by hearsay from doubtful informants, or may be gradually acquired by accumulated increments, or by shreds of knowledge gained here and there and patched together. Hence the group of tribal or national antagonisms does not admit of the same minute and detailed classification as can be made of the individual antagonisms. Nevertheless some varieties of the former are recognisable, and are based upon variations in the relation to the noxious agent similar to those of the latter, although they have not acquired sufficient prominence to gain special names. The feeling of antagonism with which a nation regards a hostile nation of approximately equal power is very different from the feeling which corresponds with the relation of a more powerful to a less powerful nation, and *vice versâ*; and the feeling of tribal or national subjection is very different from that which corresponds with conquest, although it has no nominal recognition.

If this definition of the feeling of Patriotic Aversion is correct, then, as the limits of the community become less definite and it merges more into surrounding communities, the feeling should merge and be lost in the ethical feelings; while, on the other hand, it should be strongest, other things being equal, where the boundaries between communities are most sharply defined. And this is found to be the case. It is notorious that the most intense examples of national hatred exist between the communities that are

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most isolated and whose common boundaries are most sharply defined. In illustration may be mentioned the cases of insular peoples, of mountain-clans, and of races like the Jews and the Cagots who live mingled with other communities but sharply isolated from them. Here too we see one great reason of the pacific influence of commerce. It is not necessarily that the traveller or the resident in a foreign country learns to like or to respect his new neighbours; it is that he becomes a member of the foreign community, and so long as he remains a member of it he is directly interested in its welfare. In course of time the identity of interest teaches him to assimilate his adopted to his native nation, and to regard them as parts of a single community.

The feeling with which a national benefactor is regarded I have called Piety, reverting to an ancient meaning of the term. It is closely akin to Reverence, and although the latter feeling has already been classified elsewhere, a reference to the definition of it will show that there is no inconsistency involved in the arrangement. Reverence was defined as the feeling corresponding with the relation of the organism to an actively beneficent agent of greatly superior power. Now it is evident that an agent capable of directly affecting the whole community must be cognised as overwhelmingly powerful as compared with the organism; and if it affects the community beneficially, *a fortiori* it affects the individual beneficially; so that from this point of view Tribal Reverence or Piety is included in Reverence as a species in a genus. Here again we meet with an instance of the impossibility of representing all the complicated inter-relations of the feelings either in serial order or by any arrangement in a single plane. Were it worth while, it would not be difficult to show by another solid diagram the relations of feelings of the present to those of the previous Class.

The only feeling of this group that corresponds with an action initiated by the organism is Patriotism, a feeling which corresponds with an act undertaken on the common environment for the benefit of the community at large. The object with which the act is undertaken marks the limitation of the feeling. Whatever beneficent acts a man may do for any section of the community, however large, are not termed patriotic. If a man spends a million upon improved dwellings for the poor, we call him benevolent. If he wears out his life in labouring for the amelioration of class after class of his fellow-countrymen, we call him philanthropic or public-spirited. But we do not apply to his conduct the term

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Patriotic so long as his labours are for the good of a part or even of several or many parts of the community. Only when it concerns the welfare of the entire community does this term become applicable. Now the great majority of acts done for the benefit of the community as a whole consists in dealings with other communities, and the struggle for existence necessitates that, in dealing with other communities for the benefit of his own, the patriot has usually to deal with them antagonistically; and for this reason patriotic conduct is commonly understood to mean conduct antagonistic to some other community. But that this is not the sole nor the true meaning of the term will, I think, appear upon reflection; for nearly everyone would admit the propriety of terming patriotic the conduct of a statesman who had devoted his life to the service of his country, even if he had never involved it in a war; and the self-sacrifice of a Curtius or a Winkelried is allowed to be a brilliant instance of patriotism, even though it harmed none but himself.

Order II. The Ethical Feelings: corresponding with such interactions between the organism and its *social environment* as affect the common welfare. This definition of the ethical feelings is novel, and its correctness is not immediately apparent, but I think it may be established. First note that in the absence of a social environment ethical feelings have no existence. If a man were entirely isolated from his kind and lived in total solitude, the terms right and wrong would not be applicable to his actions. If so applied they would have no meaning. According as his conduct tended to self-conservation or the reverse it might be termed prudent or imprudent, but a wicked or righteous act would be impossible. A wrong or wicked act must be an act that hurts some one; it may be more than this, but it must be this at least, and if there is no one to hurt, wrong and wickedness are impossible. Obversely, a right action must benefit some one. An act that benefits some one need not necessarily be a right act, but a right act must have this quality; and in the absence of any one to benefit there can be no rightness, in the ethical sense, in the act. It may be said that if an Alexander Selkirk were to gratuitously torture an animal, the act would be wrong; and this is manifestly true; but it is also true that we think it wrong because the sentient animal has come to be in a manner included in our social environment. To those whose social environment is more limited the act does not appear wrong; and as the ethical feelings become more and more developed

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wrongness is recognised in inflicting harm upon beings more and more distant in relationship from man, or rather this extension of the application of the stigma of wrongness is itself the expression of the development of ethical feeling. Development in another direction of the ethical feelings is marked by the less and less amounts of harm that are recognised as being wrong to inflict. I do not propose to discuss here the question of what we ought to call right and wrong. I merely take the facts as I find them; and, granting that these terms are applied to acts and classes of acts, I seek to define both the one and the other, to show under what conditions the terms right and wrong are as a matter of fact applied to them, and to discover the feelings that correspond with their various phases and varieties.

The method of regarding feelings as states in the organism corresponding with interactions between the organism and the environment seems to me to divest this perplexing subject of much of its difficulty. If we regard the Ethical Feelings as states corresponding with interactions between the organism and its social environment, the question arises, What special form can this interaction take that is different from the interactions between the organism and other sections of its environment? The community acts directly on the organism by punishment and reward—by chastisement, imprisonment and various other kinds of torture on the one hand, and by the bestowal of wealth, honours, power and other benefits on the other. But all these interactions can be suffered or attained—torture can be suffered and social eminence gained—not indeed in the absence of the community, but apart from its direct action; and the corresponding feelings—of Pain, Restraint, Authority, and so forth—as they correspond with other actions are included in other classes of feelings. The feelings of the present group are those which correspond with that additional element in the interaction which converts a pain into a punishment and a pleasure into a reward; they correspond with interactions that occur between the organism and its social environment and that cannot occur under any other circumstances. Although the community may and does act physically upon the organism, it is not the physical part of the action that the ethical feelings correspond with. It is with that feature of the community's action that we call Approbation or Reprobation.

These two attitudes of the community toward the individual are the special reactions that are evoked by the acts of the individual; and an act evokes the one or the other of these two reactions according as it is cognised to be noxious

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or beneficial to the community. When an individual acts in such a way as to benefit the community he arouses in beholders an attitude of approbation. When he acts in such a way as to harm the community he arouses in them an attitude of reprobation. These two attitudes of a community towards individual members of it are of course assumed in respect of patriotic and antipatriotic acts—those done on the environment of the community—as well as in respect of acts done on the community itself; but it is with the latter class of acts alone that we are now concerned.

Wrongful acts may be divided into two classes—those that wound the person or diminish the property of others, and those that wound the feelings. Every wrongful act must do one of these things, although many acts that do these things are not wrong; and the rightness or wrongness of a harmful act depends on whether the harm done to the individual is or is not exceeded by the benefit done to the community. If A wounds B, the act is viewed with reprobation—is considered wrong—not only by B, but by C, D, E, and other witnesses. Why is the act considered wrong by those who do not suffer from it? Because, as it seems to me, leaving Sympathy aside, each of these witnesses regards himself as possibly the next victim. Each of them grounds his judgment of the wrongness of the act, not on the fact of its perpetration on B in particular, but on its perpetration on a member of the community of which he himself is one. I do not say that this is the reason consciously alleged for the judgment. In most cases Reprobation, like other feelings, is felt and expressed without any analysis being made of the ground of its existence; but the reason that I have given, although not alleged, although perhaps not discovered on subsequent meditation, is yet the sub-conscious foundation for the judgment. Though it is not the avowed basis of our daily partition of acts into right and wrong, this is the avowed basis for the partition of them when occasion arises for a formal judgment to be pronounced; and explicit or implicit in every judicial decision is the proposition that the degree of rightness or wrongness of an act depends on the degree in which it is beneficial or noxious to the community. The jury decide whether or no the act was done, and by whom it was done. The judge sits as the representative of the community to determine the rightness or wrongness of acts. In forming his decision the principle by which he is guided is always the bearing of the act, not upon the person who chiefly suffers by it, but upon the community; or on the sufferer as representing the community.

This principle is formally embodied in the statute law.

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A steals an article from B. He is sentenced to a short term of imprisonment. On his release he steals an article from C. This time he is sentenced to a longer term of imprisonment. He is again liberated and steals another article from D. He is now sentenced to penal servitude. He gets a ticket of leave and steals another article from E. He is sent back to penal servitude for a longer term. Why this progressive augmentation of the punishment? The articles are of approximately equal, or we will suppose of diminishing, value. The wrong done to E is not greater than that done to B. It may be much less. Why should it be visited by a penalty twenty or fifty times as severe? Obviously because the offences are looked upon not as isolated offences against individuals but as repetitions of the offence against the community. Still stronger evidence is afforded by the law. A prosecutes B for theft. B says he is sorry and A wishes to withdraw from the prosecution; but the magistrate refuses to allow the charge to be withdrawn. On what possible ground? Clearly because he looks upon the act of B as injury not to A only but to the whole community, and in his view A is no longer the party chiefly interested in the matter.

It is, as a rule, wrong to deprive people of their property without compensation, to injure or to kill; but there are many exceptions in civil life to these rules; and the exceptions are those occasions in which the harm done to the individual is, or is believed to be, more than balanced by the good done to the community. This it is that makes it right to fine the wrong-doer, to flog the garotter and to hang the murderer. If it be said that the rectitude of such acts lies not in the balance of benefit which they secure to the community but in the infliction of a divinely-ordered punishment, then wherein lies the justification for destroying a house in order to prevent a fire from spreading, or in order to give a clear range to the artillery of a besieged town? and how can it be ethically permissible to imprison innocent people in quarantine? While as to most of these acts there is much controversy as to whether there is an excess of good done to the community over the harm done to the individual, no question is ever raised, save in the case of hanging, as to whether the action is right if this excess is shown to exist.

From a social point of view, acts may therefore be divided according as they benefit or harm the community or are indifferent. In the last case no feeling belonging to the present class is evoked in the beholders, but in the two former, feelings of Approbation and Reprobation respectively are aroused, and commonly find ready and well-understood

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expression. Each individual may not only experience these feelings towards others but may, under appropriate circumstances, himself be the object towards which the expressions are directed. His own acts may evoke these feelings in others; and with the relations thus formed between himself and his social environment special groups of feelings correspond. Of course the expression of approbation and reprobation is a physical process, and if such expression on the part of the community were necessary for the inception of the feeling objection might perhaps be taken to this position. But it is not necessary. In this, as in previous cases, the feeling corresponds, not necessarily with the relation that actually exists, but with the relation that is cognised. Not only is the belief that one of these feelings exists in the community or the expectation that it will exist sufficient to arouse an ethical feeling, but the cognition that an act which is not and never can be known to the community, would if known excite either approbation or reprobation, is enough to arouse an ethical feeling.

Something more than this cognition is, however, necessary for the complete determination of the feeling. A martyr may go to the scaffold amid the unanimous execrations of the multitude, and yet not only be free from any corresponding feeling of Shame but experience an ecstatic rapture of triumphant Pride. Such an example appears enough to upset the whole hypothesis; but the discrepancy is apparent only. It admits of being conducted by a circuitous but secure route to a complete reconciliation. The circumstance in the environment which enters into the relation with which this group of feelings corresponds is, as has been said, not a physical occurrence but a feeling—the feeling of approbation or reprobation. As in all other cases of emotion, the circumstance must be known before the feeling can be aroused. But, for this circumstance to be known, the feeling of approbation or reprobation which is believed to exist in the community must be represented in the consciousness of the individual. This is the only way in which a feeling can be known; and unless the feeling is so represented and so cognised, the circumstance in the environment remaining unknown, its relation to the organism must remain unknown and the corresponding ethical feeling cannot occur. Now the individual is himself one of the community, and as such he regards acts with approval or the reverse. At first applied to the acts of others, these feelings by a natural process of transference become at length applied to his own acts; so that, when the feeling of approbation or reprobation cognised as existing in the community is repre-

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sented in the mind of the individual, it comes into juxtaposition with the feeling of the same genus entertained by the individual towards himself; and according as these two feelings are of the same or of opposite signs, mathematically speaking, the ethical feeling which is their sum varies. This is what is meant by Desert. When the feeling cognised as existing in the community is of the same sign as that with which the individual regards his own act—when both attitudes are either approbative or reprobative—then the attitude of the community is cognised as *deserved*. When the signs are opposite—when the individual approves his act which the community reprobates, or when he disapproves his act which the community applauds, then the execration or applause of the community is cognised as *undeserved*. These different cognitions serve as bases for the differentiation of the ethical feelings.

TABLE XII.

CLASS III.: Social-conservative Emotions. Order II.: Ethical.

General Ethical Emotions.

The feeling corresponds with the relation of the organism, as a member of a community, to an act of one of the community cognised as	beneficial to the community.	Approbation.
	hurtful to the community.	Reprobation.

Particular Ethical Emotions.

Genus 1: Environmentally-initiated.

The feeling corresponds with the approbation of the community toward the organism	which is expressed	and cognised as deserved.	Pride.
		and cognised as undeserved.	.....
	which is not expressed but is cognised as deserved.		Dignity.
The feeling corresponds with the reprobation of the community toward the organism	which is expressed	and cognised as deserved.	Shame.
		and cognised as undeserved.	Martyrdom.
	which is not expressed but is cognised as deserved.		Remorse.

Genus 2: Organismally-initiated.

The feeling corresponds with an action of the organism cognised as deserving	approbation.		Virtue.
	reprobation	and liable to punishment.	Guilt.
		irrespective of such liability.	Repentance.
The feeling corresponds with an action of the organism whose neglect is cognised as deserving reprobation	and as liable to punishment.		Duty.
	and as not liable to punishment.		Honour.

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Of the definitions in the foregoing Table, that of Pride will probably be allowed to be correct. People are not said to be proud of a quality or a possession, unless it is one which is looked on with approbation by the community. A person who exhibits in his demeanour an appreciation of himself which is considerably above that in which he is held by his neighbours is not called proud. He is called conceited. But if among strangers he behaves so as, without claiming admiration, to convey an impression that he is not unconscious of his own merit, he is termed dignified. The feeling that is placed between Dignity and Pride, and which is defined in the Table, is a very definite feeling and one that has been made familiar to us by writers of fiction—a conspicuous example being depicted in the *Scarlet Letter*—but it has received no name. It is closely allied to Remorse, and the definitions will show the nature as well as the closeness of the kinship. The definitions of Guilt and of Repentance will probably be allowed to be correct. The retrospectiveness of the latter feeling and the infusion of Regret that it contains are two sides of the same fact, as will be seen by referring to the definition of Regret. The distinction that I have drawn between Duty and Honour appears thoroughly maintainable. We do not speak of an act as a duty unless we think that neglect of it ought to be punished, and every such act is certainly called a duty. On the other hand, when we say that a man should do this or that from a sense of honour, it is implied that there are no other means of making him do it if this motive fails. A man of a nice sense of honour is one who is punctilious in doing things which he could not be punished for neglecting, and whose neglect would arouse but little disapprobation.

The special methods by which the community reacts upon its individuals have already been noticed. These methods are reward and punishment, both of which may be included under the head of Award. Reward is the special reaction of the community to acts that are beneficial to it, punishment its reaction to noxious acts. As in physics action and reaction are equal, so in ethics the amount of reward or punishment is proportioned to the degree of beneficence or noxiousness of the action borne by the community. Here we meet with another meaning of the word Desert,—a connotation which gives to it a quantitative value in addition to the qualitative value previously affixed to it. Not only is punishment looked on by the individual as deserved when and when alone it is inflicted in retaliation for a noxious act, but the amount of the punishment must be

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proportionate to the noxiousness of the act before one can say that an offender has got his deserts. Similarly the amount of a reward must be proportionate to the beneficence of the act for which it is given, or it will not be considered as completely deserved. The relation between the quality of the act and the amount of the award cannot be accurately fixed, for neither the one nor the other admits of exact measurement. But still a certain proportion there must always be, and the more closely proportionate the award is to the action that calls it forth, the more appropriate is it considered. With relations of the reactions of the community upon beneficent and noxious individuals a small but well characterised group of feelings corresponds.

TABLE XIII.

CLASS III.: Social-conservative Emotions. Order II.: Ethical.

Feelings corresponding with the relation of Award to Desert.

The feeling corresponds with a relation between award and desert which is cognised as one of	equality.		Justice.
	inequality	moderate.	Injustice.
		extreme.	Indignation.

The term unjust is commonly applied to punishments in excess of desert, but this is merely because such cases of injustice are more common than others. A few examples will show that it is equally applicable whenever award is disproportionate to desert, whether the reaction of the community is unduly favourable or unduly unfavourable to the individual. When we read that a man has got a long term of imprisonment for picking up a dead rabbit or for stealing a few turnips, we estimate the punishment as excessive, and we have a feeling of Injustice. But the same feeling arises in not inferior volume when we hear of a man getting a few weeks' imprisonment for a murderous assault upon his wife. Here the punishment is estimated as insufficient compared with desert, and the feeling of Injustice arises on the cognition of an inequality opposite in sense to that of the previous case. A short time ago a railway porter found a parcel containing negotiable documents to the value of several thousands of pounds, and restored it intact to its owner, who rewarded him with a threepenny-piece. Knowledge of this incident at once arouses a feeling of Injustice, although the question of punishment is not involved in it at all. It is the disproportion between reward and desert that gives occasion for the feeling. Lastly, when this disproportion is in the form of an excess of reward over desert the

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same feeling arises; as, for instance, when cases of nepotism and favouritism come to our knowledge.

If this definition of Injustice is admitted, the definition of Indignation will also, I think, be allowed, for the latter is always due to the cognition of a great injustice; and such a cognition never fails to arouse the feeling. Provided the inequality between award and desert is great, it matters not whether it is reward or punishment that is involved, nor whether these are lacking or excessive. We are as indignant at a gross example of favouritism as at a gross instance of ingratitude, and experience the same volume and intensity of feeling when a Napoleon III. attains power by a mass of crimes as when a negro girl is flogged to death for disobedience by a missionary.

CLASS IV. *Feelings corresponding with interactions between the organism and the environment that primarily affect the welfare of others.*

In this Class is reached the extreme limit of application of the term interaction, and but for the sake of uniformity it would be better to substitute the term relation, as explained in MIND XXXV. 335, 6. The feelings of this Class have a close kinship with those of the last Class, but the difference in their evoking circumstances will appear sufficient to justify the separation. The subdivision proceeds on similar grounds to that of previous Classes.

TABLE XIV.

CLASS IV.: The Sympathetic Feelings.

Genus 1: Environmentally-initiated.

The feeling corresponds with the relation to the organism	of an accession to the welfare of others	which is cognised as equally deserved by the organism.	Envy.
		which is not compared with that of the organism.	Gratulation.
	of a diminution of the welfare of others	which is moderate.	Sympathy.
		which is extreme.	Pity.

Genus 2: Organismally-initiated.

The feeling corresponds with the performance of an act for the benefit of others.	Benevolence.

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My definition of the nature of Envy may be regarded as unduly cynical, but I think it will hold good. That an accession to the welfare of others which is cognised as equally deserved by himself should always and by everyone be looked on with Envy appears horrible, but I fear it is true. Doubtless not every such accession, even though it might justly be cognised as equally deserved by himself, does actually arouse envious feelings in the beholder, but this is because the cognition is either not formed, or not attended to, or thrust out of sight. So long as the cognition is formed and is allowed prominence in the mind, so long the feeling of Envy is and must be experienced. Gratulation is the feeling of which congratulation is the expression. The other feelings of this Class do not require comment.

CLASS V. *Feelings corresponding with interactions between the organism and the environment that are neither conservative nor destructive.*

From the nature of its limitation this Class of feelings is necessarily somewhat heterogeneous. It is a residuum, comprising all the feelings that are not included in the other Classes; but its components have nevertheless a relationship sufficiently obvious to have gained very general recognition, and such a relationship existing in a Class so constituted speaks strongly for the naturalness of the whole classification. The primary division is according to the mode of initiation.

Environmentally-initiated feelings of this Class are divided, on lines similar to those previously laid down, into those which correspond with the relation of the organism to an agent in the environment and those which correspond with its relation to an event. In addition there are in this Class two groups that have no analogues in previous Classes:—feelings corresponding with the relation of the reaction of the organism to the action of the environment, and feelings corresponding with the relation of the organism to the unknown.

TABLE XV.

CLASS V.: Feelings corresponding with interactions between the organism and the environment that are neither conservative nor destructive.

Order I.: Environmentally-initiated.

Genus 1.	The feeling corresponds with the relation to the organism of an *agent* in the environment cognised as neither beneficent nor noxious.	Feelings of Admiration.
Genus 2.	The feeling corresponds with the relation to the organism of an *event* in the environment cognised as neither beneficent nor noxious.	Feelings of Surprise.

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TABLE XV.—*Continued.*

Genus 3.	The feeling corresponds with the relation of the reaction of the organism to the action of the environment.	Æsthetic Feelings.
Genus 4.	The feeling corresponds with the relation of the organism to the unknown.	Religious Feeling.

Order II. : Organismally-initiated.

Genus 5.	The feeling corresponds with an action of the organism undertaken for no immediate beneficial end, but to employ surplus activity.	Feelings of Recreation.

Genus 1. The only agent in the environment which can arouse a feeling belonging to the present Genus is an agent which is, or is cognised as, neutral so far as the welfare of the organism is concerned. But no such agent will attract attention—will arouse any feeling at all—unless it is forced as it were upon the notice of the individual by its exceptional prominence. Agents that directly affect the welfare of the organism are as a rule recognised with great readiness and certainty, but those that are indifferent will not arouse notice unless they are of considerable power or unless their power is exerted in a conspicuous manner. Further it is evident that if the power of the agent is not very great it must be conspicuously exerted in order to attract notice, while if it is very great indeed it may arouse attention even if not exerted at all. According to the magnitude of the power attributed to the agent will be the subdivision of this group of feelings.

TABLE XVI.

Class V. Order I. Genus 1 : Feelings of Admiration.

Feelings corresponding with the relation to the organism of an agent in the environment which is cognised as neutral	and of overwhelming power	which is exerted.	Awe.
		which is not exerted.	Sublimity.
	and of greatly superior power.		Majesty.
	and of superior power.		Admiration.
	and of approximately equal power.		Respect.
	and of insignificant power.		Curiosity.

Awe and Sublimity are not commonly separated by the distinction drawn in the Table, but the division appears to me not only useful but to a certain extent implicit in the commonly received acceptation of the terms. For the feeling of Awe has an undoubted kinship to Terror. It contains a slight infusion of Fear. Now when an agent of over-

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whelming power is in action—is exerting its power—however distant or neutral the agent may be, we cannot avoid a certain cognition, however faint, of the possible application of this power to ourselves. If the agent, however powerful, is cognised as passive, this idea of its application to the organism is so far in the background as not sensibly to affect the feeling aroused; but when the power is exerted the concept rises more toward the full light of consciousness, and gives a slight but decided colour to the feeling.

The feelings of Majesty and Admiration depend on the cognition of agents whose power is cognised as superior to that of the organism but not overwhelming. As the agent which evokes a feeling of Admiration is inferior in power to one which evokes a feeling of Majesty, its action must be more conspicuously displayed; and this I think will be admitted to be the case. The term Majesty, like the names of many other feelings, is given not only to the feeling, but is also ascribed to the agent as a quality; and thus used it denotes the special environmental circumstance that arouses the feeling. Now when Majesty is used to denote a quality it connotes deliberateness of action—implies greatness of mass moving rather than velocity of movement; and a large mass moving slowly gives the idea of much greater power than a small mass moving quickly, even when the momenta are equal, because we estimate power in environmental agents in terms of our effort, and our limbs being levers of the third order it is much easier for us to move a small mass quickly than a large mass slowly.

As the power of the agent diminishes, the conspicuousness with which it is exerted must increase or it will not be cognised. Hence to produce a feeling of Admiration power must be more conspicuously exerted than to produce one of Majesty, and to evoke the feeling of Respect the display must be more conspicuous still. For this reason Respect is not commonly felt unless the power of the agent has been displayed repeatedly. We do not respect a person on casual acquaintance. It usually requires a somewhat prolonged knowledge to evoke this feeling; and where Respect is felt upon a short acquaintance it is owing to the exceptional conspicuousness of the display of power, as, for instance, when Respect is felt for a tenacious adversary. In such a case it may be said that since an adversary must be a noxious agent, the feeling ought to be included in Class I. But an adversary is not necessarily noxious. He may be our adversary at chess or whist, and we may respect him

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in so far as he is a chess or a whist player without extending respect to his general character. The difference between magnitude of power and conspicuousness of its display is well seen in the same instance, for we respect an adversary even inferior to ourselves if not much inferior, but we do not admire him unless he is considerably our superior.

Genus 2. What is true of a neutral agent is true of a neutral event: it will not attract notice unless it is forced, as it were, upon the notice of the individual by its exceptional prominence. An event may be conspicuous in two ways—by its incongruity with previous events, or by its suddenness. If it owes its prominence to its incongruity with the previous experience of the organism, the feeling aroused is so intimately blended with this cognition of incongruity that it may best be considered as belonging to the next Class, this being the point at which the feelings of these two Classes become continuous. The only remaining case in which an event neither noxious nor beneficent is prominent enough to arouse a feeling is when it owes its prominence to its suddenness; and the feeling aroused by the cognition of a sudden event is a feeling of Surprise.

Genus 3. Æsthetic Feeling has been defined as the relation which the reaction of the organism bears to actions on it of the environment which are neither conservative nor destructive. Shortly after arriving at this conclusion I found that I had unwittingly been treading closely in the footsteps of Mr. Grant Allen, of whose charming book, *Physiological Æsthetics*, a very similar principle forms the basis. This unexpected coincidence is to me extremely satisfactory, since it raises a very strong presumption of the approximate correctness of this view of the nature of Æsthetic. On reading Mr. Grant Allen's work I was strongly disposed to discard my own view in favour of his, and to regard the feeling of Beauty as corresponding with the maximum of stimulation with the minimum of fatigue or of waste; but after some hesitation I have thought it better to retain the view which regards it as the maximum of action of the environment on the organism with the minimum of reaction of the organism on the environment. Although the correctness of this expression is not nearly so evident as that of Mr. Allen's, it is not only more in harmony with the system of classification here expanded, but it brings into prominence elements which I believe to be equally in accordance with truth and of more fundamental character. Stimulation, it is manifest, can only occur by an action of the environment on the organism. It is not at first sight equally manifest that

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fatigue necessarily implies action of the organism on the environment; but it will be admitted that it usually does so, and I think it can be shown that it always does. Fatigue as commonly used means the feeling that accompanies exhaustion of muscular power after exertion—that is to say, it implies much previous action on the environment. But we speak also of fatigue of the eyes after working long at the microscope, or after many hours in a picture-gallery. In the former case there is true fatigue—exhaustion of the ocular muscles, and this may also be present to a certain extent in the latter, but the feeling here is not mainly, I think, one of true fatigue; it is mainly a feeling of satiety. There is, however, another application of the term fatigue which must be admitted to be correct, and which appears at first sight to have no reference to muscular action—to reaction on the environment. This is the feeling that follows continued intellectual exertion. When this feeling is present there may have been no preceding muscular exertion. The body may have been in complete repose with reference to its surroundings. Yet there has been great internal activity, and there is a considerable volume of feeling to which the term fatigue is universally applied. Can this feeling be said to correspond with action of the organism on the environment? If by correspondence is meant direct correspondence, of course it cannot; but if the correspondence is to be thus restricted, neither can fatigue of the muscles of the eye and ear be said to correspond with such action. Intellectual exertion is on the physical side the opening up of new elements—the rendering permeable of new tracts—for the currents or waves of molecular movement in the cerebral cortex. Every conclusion reached, every judgment formed, every similarity perceived, every difference distinguished, implies a modification of the structure of the brain—implies a redistribution of the resistance to molecular change—implies a modification in the direction that future changes must follow. But the cerebral cortex, regarded physiologically, represents combinations of muscular movements; and a modification of the structure of the cerebral cortex is, on the physiological side, a modification in the grouping of muscular movements—is a modification of the way in which the organism acts upon the environment. Now if we bring together the first and last links in this chain of reasoning we find that intellectual exertion necessarily implies a modification of the action of the organism on the environment, and that the fatigue which follows great intellectual exertion is the feeling which corresponds indirectly with a modification

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of the action of the organism on the environment. Mr. Grant Allen has so carefully, and I think thoroughly, established his principle that there is no necessity to contend at length and in detail for the correctness of the similar expression which is here substituted for it.

Genus 4. We have now dealt with every relation to the organism of those surroundings that are special to the individual, and of those more extended circumstances to which he is related as a member of a race and of a community—to all those surroundings that can be cognised with any approach to accuracy. These special environments are different for each community and for each individual, but, however wide they may be, they include of necessity that which is known and that only. Outside and beyond these limited spheres of interaction there lies the limitless Unknown, with which the organism comes into relation at countless points of contact. The Religious Emotion is that state in the organism which corresponds with the aggregate of these relations to the unknown—with the relation to it of the cosmos outside of the environment. It is impossible to deal within the limits of this paper with all the aspects, many of them highly controversial, of this large subject. To do so would require a separate essay. I will therefore merely set down the view I take of the matter for the purpose of classification, without entering upon any defence or lengthened discussion. By the unknown I do not mean that which is not definitely known. I mean that which appears to be outside the sequence of physical causation. To use a somewhat discredited term, it is that which appears to the individual not only unknown but unknowable. It is evident that all acts of the organism are regulated by relations with the known. Even in dealings with the unknown we regulate our acts on the assumption of the uniformity of nature—on the assumption that the same general relations that hold good in the sphere of the known hold good in the sphere of the unknown also; that is to say, practically our acts are regulated by relations with the known. Where we have to deal with matters to which the uniformity of nature as we know it does not apply, there we enter the sphere of the unknown, and then those feelings arise which we term religious. If this is so, then it is evident that what may be termed the provocation or eliciting circumstances of the religious emotions will differ widely with different individuals, and still more widely with different communities. The savage, for whom the uniformity of nature, or the necessary sequence of physical cause and

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effect, has no existence outside of the changes produced by living animals, attributes every event which he cannot ascribe to the direct action of a known living agent to the direct action of an unknown living agent—to a supernatural agent. Thus every such event brings him into relation with the unknown and arouses in him a feeling which must be called rudimentarily religious. As knowledge increases, the luminous sphere of the known continually expands and encroaches upon the outer darkness of the unknown, and as the latter is pushed back, the relation with which the religious emotion corresponds become more and more remote from the common surroundings of daily life. As acquaintance with the uniformity of physical causation extends, the circumstances that arouse the religious emotion become more and more remote from concrete experiences. At first it extends to almost all surrounding phenomena, to the flow of water, the movement of the breeze, the course of the heavenly bodies, and even the occurrence of bodily accidents—stumbles and falls. In semi-civilised men it is only the rarer and less accountable of such actions that arouse the emotion. No longer aroused by the flow of the river or the variation of the tides, it still occurs upon the sight of a water-spout. After winds have been accounted for by varying atmospheric pressure and fluid-elasticity, and rain by the capacity of air under different conditions to hold water in suspension, a stroke of lightning is still attributed to the personal intervention of the Deity, and a season of drought is still provided against by prayers for rain. After the course of a fever is attributed to the action of strictly natural laws, the occurrence of an epidemic is still considered as a punishment inflicted by an angry God upon his disobedient creatures. As knowledge increases these inconsistencies disappear. All physical phenomena are included in one unvarying sequence of physical causation. The whole universe of space and time comes to be included in the luminous sphere of the known; but, however large this sphere, it is still bounded over its entire surface by the immense unknown, and what the evoking circumstances of the religious emotion lose in proximity they more than gain in volume. The analogy of the sphere, whose surface increases as the square of its radius, will help us to understand how vastly the aggregate of these circumstances will exceed in the case of a man of culture and intelligence those which environ the uncultured man.

Genus 5. The feelings of Recreation are, as Mr. Grant Allen has pointed out, closely allied to the Æsthetic feelings,

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and the definitions given in Table XV. show what appears to me to be the nature of the kinship. The first need of the organism is to conserve itself, and until this need is satisfied none of its energies can be diverted to any other purpose. Its second need is to provide for those that are dependent on it. The third, which is often involved in the other two, is to take its share in the conservation of the community. Only when these needs are satisfied can activities of the present Class come legitimately into existence, and only then can the feeling be experienced. If, after all these needs are satisfied, there remain a surplus of energy available for expenditure in other directions, then, in whatever direction such energy may be expended, the corresponding feeling partakes of the character of Recreation. If, however, the other needs are of such an engrossing character as to absorb all the available energy of the organism, then recreative activity becomes impossible, and the feelings of Recreation have no existence. It is obvious that the meaning of the term Recreation as here used is more extensive than its ordinary acceptation, since it includes not only those forms of activity that are known as games and sports, not only music and art, but all social pleasures and all those occupations that belong to the amateur.

In closing the consideration of this Class of feelings, it will be appropriate to point out that although it has the least internal cohesion of any of the Classes, yet the kinship of the several genera to one another is not only well marked but is generally recognised. The affinity between the Sublime and the Beautiful had existed as a betrothal long before Burke's essay irrevocably joined them. Beauty is so naturally associated with Admiration that the one can scarcely occur without the other, while great Beauty needs but the additional element of Surprise to elevate it into Rapture. The association of Æsthetic with Recreation is too trite to require more than bare mention; and the kinship of the Religious emotion with Awe and Sublimity is not less obvious that its close fundamental relationship with Æsthetic in all its forms, whether of architecture, of painting, of music, of sculpture, of costume or of ceremonial.

CLASS VI. *Feelings which correspond with the relation between interactions.*

These are the Feelings of Cognition. The meaning of this somewhat paradoxical expression has already been explained. A cognition is itself a feeling—the feeling accom-

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panying the transition from one prominent state of consciousness to a similar adjacent state. Every cognition has therefore an aspect as feeling, and, when viewed from this standpoint, cognitions are susceptible of a classification quite different from that on which they are arranged when viewed solely on their cognitive aspect, though still based on variations in the correspondence between the organism and the environment. A cognition, viewed solely as a cognition, is a relation in the organism corresponding with a relation in the environment. Viewed as a feeling it is the state in the organism which corresponds with a relation between the organism and the environment. We have to determine what this relation is.

Every cognition, says Mr. Spencer, is a recognition. In other words it is an assimilation of a new experience with previous experiences; or, translated into terms of that aspect of the correspondence between the organism and the environment with which we are now dealing, it is the state in the organism which corresponds with the relation between the present experience and past experiences—between the present interaction and past interactions. Now the assimilation of a present experience with past experiences depends on its congruity and conformity with them. If it is completely congruous it is completely assimilated, if completely incongruous it is not assimilated. Hence the divisions of the feelings of cognition depend on the congruity that is cognised between present and past experiences.

TABLE XVII.

CLASS VI.: The Feelings of Cognition.

A cognition of complete congruity is on its obverse aspect a feeling of	Conviction.
A cognition of general congruity is on its obverse aspect a feeling of	Belief.
A cognition of incongruity is on its obverse aspect, according to the degree of incongruity, a feeling of	Wonder. Astonishment. Marvelling. Amazement.
A cognition of multiformity of experiences is on its obverse aspect a feeling of	Perplexity.
A cognition of contrariety of experiences is on its obverse aspect a feeling of	oubt.
Repeated cognitions of contrariety induce a proneness to doubt which is	Scepticism.
A cognition of an experience contradictory of previous experiences is on its obverse aspect a feeling of	Disbelief.
A cognition of the juxtaposition of an experience to a previous experience with which it is incongruous, and in comparison with which it is of insignificant magnitude, is on its obverse aspect a feeling of	Ludicrousness.

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There is not much that calls for notice in the preceding Table. It will be noticed that Surprise has been placed in a different Class from Wonder and Astonishment, closely as these feelings must be admitted to be allied. Surprise, it will be remembered, depends on the suddenness of the event that calls it forth. It is true that when we meet a person in the street whom we had believed to be far away, we say "I am surprised to see you here," and that this expression is used quite apart from the suddenness of the meeting. We may perceive him a hundred yards off, and the certain identification of him may extend over several minutes, and still we say we are surprised. This discrepancy between my statement and common usage depends, I think, on the circumstance already alluded to, that people are in general very lax and unprecise in their application of names to states of feeling, and do not commonly distinguish clearly between feelings that are at all closely related. I should consider it incorrect to use the term surprise in the case instanced. The expression should be "I *wonder* to see you here," and everyone will admit that this expression would be appropriate. Which of the two terms is eventually chosen depends on the usage and is of little importance. What is important to remember is that the *magnitude* of a change in the environment and the *suddenness* with which it occurs are two totally different circumstances, and that the feeling aroused by the one is different from the feeling aroused by the other. What names we apply to the two feelings is immaterial so long as we remember that the feelings are different. The definition of Ludicrousness is an adaptation from Mr. Spencer's views. It harmonises well with this method of classification.

After all that has gone before it will not be necessary to examine and defend separately each of the definitions in Table XVII. Anyone who has read the previous parts of the Classification will anticipate the nature of the defence that I should make, and will by this time have made up his mind whether to accept or reject the basis on which the Classification is founded. If he is able to accept it, it will be enough to have shown him that every group of feelings is susceptible of classification upon that basis, and the actual position of any individual feeling is a matter of secondary importance. If on the other hand the principle of the Classification does not find acceptance, then it is useless and profitless to haggle about its details.

The Classification that is here proposed does not lay

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claim to finality. It is a characteristic of all classifications founded on the principle of Evolution that they admit, they proclaim, the artificiality of all abrupt limitations. If all things have arisen by modification of preceding things, there may be wide differences but there cannot be abrupt differences. Where two things or two groups of things are connected by a graduated series of intermediate forms, all may agree that the two should be separated, but the precise link at which the graduated chain is to be severed will surely arouse differences of opinion. Such differences are often important, but they do not invalidate the main principle involved—the existence of a distinction between the two groups. All that is claimed for this Classification is that it is founded on the principle of Evolution; that it harmonises with Mr. Spencer's system of Psychology, of which it is indeed an extension and a corollary; that it indicates the relations of each feeling not only to its two nearest neighbours, as only an arrangement in serial order can do, but to many adjacent feelings which approach it on many sides; that it affords a place for Will, nay, that without Will it would be incomplete; and finally, if I may venture a prediction, that it will be found elastic enough to include any feelings that may have been omitted from this enumeration.

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II.—ON THE FUNCTION OF COGNITION.[1]

By Professor WILLIAM JAMES.

THE following inquiry is (to use a distinction familiar to readers of Mr. Shadworth Hodgson) not an inquiry into the "how it comes," but into the "what it is" of cognition. What we call acts of cognition are evidently realised through what we call brains and their events, whether there be "souls" dynamically connected with the brains or not. But with neither brains nor souls has this essay any business to transact. In it we shall simply assume that cognition *is* produced, somehow, and limit ourselves to asking what elements it contains, what factors it implies. In other words, our task is a purely analytic and introspective one; less important, possibly, than would be a successful research into the *causes* of cognition, but still interesting enough in its way.

Cognition is a function of consciousness. The first factor it implies is therefore a state of consciousness wherein the cognition shall take place. Having in MIND XXXIII. used the word "Feeling" to designate generically all states of consciousness considered subjectively, or without respect to their possible function, I shall then say that, whatever elements an act of cognition may imply besides, it at least implies the existence of a *feeling*. If the reader share the current antipathy to the word feeling, he may substitute for it, wherever I use it, the word "idea," taken in the old broad Lockian sense, or he may use the clumsy phrase "state of consciousness," or finally he may say "thought" instead.

Now it is to be observed that the common consent of mankind has agreed that some feelings are cognitive and some are simple facts having a subjective or, what one might almost call a physical, existence, but no such self-transcendent function as would be implied in their being pieces of knowledge. Our task is again limited here. We are not to ask, "How is self-transcendence possible?" We are only to ask, How comes it that common sense has assigned a number of cases in which it is assumed not only to be possible but actual? And what are the marks used by

[1] Read before the Aristotelian Society on December 1st.

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common sense to distinguish those cases from the rest? In short, our inquiry is a chapter in descriptive psychology, —hardly anything more.

Condillac embarked on a quest similar to this by his famous hypothesis of a statue to which various feelings were successively imparted. Its first feeling was supposed to be one of fragrance. But to avoid all possible complication with the question of genesis, let us not attribute even to a statue the possession of our imaginary feeling. Let us rather suppose it attached to no matter, nor localised at any point in space, but left swinging in *vacuo*, as it were, by the direct creative *fiat* of a god. And let us also, to escape entanglement with difficulties about the physical or psychical nature of its "object," not call it a feeling of fragrance or of any other determinate sort, but limit ourselves to assuming that it is a feeling of *q*. What is true of it under this abstract name will be no less true of it in any more particular shape (such as fragrance, pain, hardness) the reader may suppose.

Now, if this feeling of *q* be the only creation of the god, it will of course form the entire universe. And if, to escape the cavils of that large class of persons who believe that *semper idem sentire ac non sentire* are the same,[1] we allow the feeling to be of as short a duration as they like, that universe will only need to last an infinitesimal part of a second. The feeling in question will thus be reduced to its fighting weight, and all that befals it in the way of a cognitive function must be held to befal in the brief instant of its quickly snuffed-out life,—a life, it will also be noticed, that has no other moment of consciousness either preceding or following it.

Well now, can our little feeling, thus left alone in the

[1] "The Relativity of Knowledge," held in this sense is, it may be observed in passing, one of the oddest of philosophic superstitions. Whatever facts may be cited in its favour are due to the properties of nerve-tissue, which may be exhausted by too prolonged an excitement. Patients with neuralgias that last unremittingly for days, can, however, assure us that the limits of this nerve-law are pretty widely drawn. But if we physically could get a feeling that should last eternally unchanged, what atom of logical or psychological argument is there to prove that it would not be felt as long as it lasted, and felt for just what it is, all that time? The reason for the opposite prejudice seems to be our reluctance to think that so *stupid* a thing as such a feeling would necessarily be, should be allowed to fill eternity with its presence. An interminable acquaintance, leading to no knowledge-*about*,—such would be its condition. (Since writing this note I have read with the greatest pleasure Stumpf's demolition of the Relativity-doctrine in § 1 of his *Tonpsychologie*, and beg leave to urge the study of it upon all readers.)

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universe,—for the god and we psychological critics may be supposed left out of the account,—can the feeling, I say, be said to have any sort of a cognitive function? For it to *know*, there must be something to be known. What is there, on the present supposition? One may reply, "the feeling's content *q*". But does it not seem more proper to call this the feeling's *quality* than its content? Does not the word "content" suggest that the feeling itself has already been discriminated as an act from its content as an object? And would it be quite safe to assume so promptly that the quality *q* of a feeling is one and the same thing with a feeling of the quality *q*? The quality *q*, so far, is an entirely subjective fact which the feeling carries in its pocket, so to speak, endogenously. If anyone pleases to dignify so simple a fact as this by the name of knowledge, of course nothing can prevent him. But let us keep closer to the path of common usage, and reserve the name knowledge for the cognition of "realities," meaning by realities things that exist independently of the feeling through which their cognition occurs. If the content of the feeling occur nowhere in the universe outside of the feeling itself, and perish with the feeling, common usage refuses to call it a reality, and brands it as a subjective feature of the feeling's constitution, or at the most as the feeling's *dream*.

For the feeling to be cognitive in the specific sense, then, it must be self-transcendent; and we must prevail upon the god to create a reality outside of it to correspond to its intrinsic quality *q*. Thus only can it be redeemed from the condition of being a solipsism. If now the new-created reality *resemble* the feeling's quality *q*, I say that the feeling may be held by us *to be cognisant of that reality*.

This first instalment of my thesis is sure to be attacked. But one word before defending it. "Reality" has become our warrant for calling a feeling cognitive; but what becomes our warrant for calling anything reality? *Quis custodiet custodem ipsum?* The only reply is—the faith of the psychologist, critic, or inquirer. At every moment of his life he finds himself subject to a belief in *some* realities, even though his realities of this year should prove to be his illusions of the next. Whenever he finds that the feeling he is studying contemplates what he himself regards as a reality, he must of course admit the feeling itself to be truly cognitive. We are ourselves the critics here; and we shall find our burden much lightened by being allowed to take reality in this relative and provisional way. Every science must make some assumptions. Psychologists and

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Erkenntnisstheoretiker are but fallible mortals. When they study the function of cognition, they do it by means of the same function in themselves. And knowing that the fountain cannot go higher that its source, we should promptly confess that our results in this field are affected by our own liability to err. The most we can claim is, that what we say about cognition may be counted as true as what we say *about anything else*. If our hearers agree with us about what are to be held "realities," they will perhaps also agree to our doctrine of the way in which they are known. We cannot ask for more.

Our terminology shall follow the spirit of these remarks. We will deny the function of knowledge to any feeling whose quality or content we do not ourselves believe to exist outside of that feeling as well as in it. We may call such a feeling a dream if we like; we shall have to see later on whether we can call it a fiction or an error.

To revert now to our thesis. Followers of Berkeley and Reid will immediately cry out, "How *can* a reality *resemble* a feeling?" Here we find how wise we were to name the quality of the feeling by an algebraic letter *q*. We flank the whole difficulty of resemblance between an inner state and an outward reality, by leaving it free to anyone to postulate as the reality whatever sort of thing he thinks *can* resemble a feeling,—if not an outward thing, then another feeling like the first one,—the mere feeling *q* in the critic's mind for example. Evading thus this objection, we turn to another which is sure to be urged.

It will come from those philosophers to whom "thought," in the sense of a knowledge of relations, is the all in all of mental life; and who hold a merely "feeling"-consciousness to be no better—one would sometimes say from their utterances, a good deal worse—than no consciousness at all. Such phrases as these, for example, are common to-day in the mouths of those who claim to walk in the footprints of Kant and Hegel rather than in the ancestral English paths: "A perception detached from all others, 'left out of the heap we call a mind,' being out of all relation, has no qualities—is simply nothing. We can no more consider it than we can see vacancy." "It is simply in itself fleeting, momentary, unnameable (because while we name it it has become another), and for the very same reason unknowable, the very negation of knowability." "Exclude from what we have considered real all qualities constituted by relation, we find that none are left."

Although such citations as these from the late Professor

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Green might be multiplied almost indefinitely, it would hardly repay the pains, so egregiously false is the doctrine they teach. Our little supposed feeling, whatever it may be, from the cognitive point of view, whether a bit of knowledge or a dream, is certainly no psychical zero. It is a most positively and definitely qualified inner fact, with a complexion all its own. Of course there are many mental facts which it is *not*. It knows *q*, if *q* be a reality, with a very minimum of knowledge. It neither dates nor locates it. It neither classes nor names it. And it neither knows itself as a feeling, nor contrasts itself with other feelings, nor estimates its own duration or intensity. It is, in short, if there is no more of it than this, a most dumb and helpless and useless kind of thing.

But if we must describe it by so many negations, and if it can say nothing *about* itself or *about* anything else, by what right do we deny that it is a psychical zero? And may not the "relationists" be right after all?

In the innocent looking word "about" lies the solution of this riddle; and a simple enough solution it is when frankly looked at. A quotation from a too seldon quoted book, the *Exploratio Philosophica* of John Grote (London, 1865), p. 60, will form the best introduction to it.

"Our knowledge may be contemplated in either of two ways, or, to use other words, we may speak in a double manner of the 'object' of knowledge. That is, we may either use language thus: we *know* a thing, a man, &c.; or we may use it thus: we know such and such things *about* the thing, the man, &c. Language in general, following its true logical instinct, distinguishes between these two applications of the notion of knowledge, the one being *γνῶναι, noscere, kennen, connaître*, the other being *εἰδέναι, scire, wissen, savoir*. In the origin, the former may be considered more what I have called phenomenal—it is the notion of knowledge as *acquaintance* or familiarity with what is known; which notion is perhaps more akin to the phenomenal bodily communication, and is less purely intellectual than the other; it is the kind of knowledge which we have of a thing by the presentation to the senses or the representation of it in picture or type, a *Vorstellung*. The other, which is what we express in judgments or propositions, what is embodied in *Begriffe* or concepts without any necessary imaginative representation, is in its origin the more intellectual notion of knowledge. There is no reason, however, why we should not express our knowledge, whatever its kind, in either manner, provided only we do not confusedly express it, in the same proposition or piece of reasoning, in both."

Now obviously if our supposed feeling of *q* is (if knowledge at all) only knowledge of the mere acquaintance-type, it is milking a he-goat, as the ancients would have said, to try to extract from it any deliverance *about* anything under the sun, even about itself. And it is as unjust after our

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failure to turn upon it and call it a psychical nothing, as it would be, after our fruitless attack upon the billy-goat, to proclaim the non-lactiferous character of the whole goat-tribe. But the entire industry of the Hegelian school in trying to shove simple sensation out of the pale of philosophic recognition is founded on this false issue. It is always the "speechlessness" of sensation, its inability to make any "statement,"[1] that is held to make the very notion of it meaningless, and to justify the student of knowledge in scouting it out of existence. "Significance," in the sense of standing as the *sign* of other mental states, is taken to be the sole function of what mental states we have; and from the perception that our little primitive sensation has as yet no significance in this literal sense, it is an easy step to call it first meaningless, next senseless, then vacuous, and finally to brand it as absurd and inadmissible. But in this universal liquidation, this everlasting slip, slip, slip, of direct acquaintance into knowledge-*about*, of things into their relations, until at last nothing is left between which the relations can be supposed to obtain, does not all "significance" depart from the relations also? And when our knowledge "about" things has reached its never so complicated perfection, must there not needs abide alongside of it and inextricably mixed in with it some acquaintance with *what* things all this knowledge is about?

Now, our supposed little feeling gives a *what;* and if other feelings should succeed which remember the first, its *what* may stand as subject or predicate of some piece of knowledge-about, of some judgment, perceiving relations between it and other *whats*, which the other feelings may know. The hitherto dumb *q* will then receive a name and be no longer "speechless". But every name, as students of logic know, has its "denotation"; and the denotation always means some fact, or content, relationless *ab extra*, or with its internal relations unanalysed, like the *q* which our primitive sensation is supposed to know. No relation-expressing proposition is possible except on the basis of a preliminary acquaintance with such "facts," with such contents, as this. Let the *q* be fragrance, let it be toothache, or let it be a more complex kind of feeling, like that of the full-moon swimming in her blue abyss, it must first come in that simple shape, and be held fast in that "first intention," before any knowledge *about* it can be attained. The know-

[1] See, for example, Green's Introduction to Hume's *Treatise of Human Nature*, p. 36.

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ledge *about* it is *it* with a context added. Undo *it*, and what is added cannot be *con*text.[1]

Let us say no more then about this objection, but enlarge our thesis, thus: If there be in the universe a q other than the q in the feeling, the latter has acquaintance with an entity ejective to itself; an acquaintance moreover, which, as mere acquaintance, it is hard to imagine susceptible either of improvement or increase, being in its way complete; and which obliges us (so long as we refuse not to call acquaintance knowledge) to say not only that the feeling is cognitive, but that all qualities of feeling, so long as there is anything outside of them which they resemble, are feelings of qualities of existence, and perceptions of outward truth.

The point of this vindication of the cognitive function of the first feeling lies, it will be noticed, in the discovery that q does exist elsewhere than in it. In case this discovery were not made, we could not be sure the feeling was cognitive; and in case there were nothing outside to be discovered, we should have to call the feeling a dream. But the feeling itself cannot make the discovery. Its own q is the only q it grasps; and its own nature is not a particle altered by having the self-transcendent function of cognition either added to it or taken away. The function is accidental; synthetic, not analytic; and falls outside and not inside its being.[2]

[1] If A enters and B exclaims, "Didn't you see my brother on the stairs?" we all hold that A may answer, "I saw him, but didn't know he was your brother"; ignorance of brotherhood not abolishing power to see. But those who, on account of the unrelatedness of the first facts with which we become acquainted, deny them to be "known" to us, ought in consistency to maintain that if A did not perceive the relationship of the man on the stairs to B, it was impossible he should have noticed him at all.

[2] It seems paradoxical to call so important a function accidental, but I do not see how we can mend the matter. Just as, if we start with the reality and ask how it may come to be known, we can only reply by invoking a feeling which shall *reconstruct* it in its own more private fashion; so, if we start with the feeling and ask how it may come to know, we can only reply by invoking a reality which shall *reconstruct* it in its own more public fashion. In either case, however, the datum we start with remains just what it was. One may easily get lost in verbal mysteries about the difference between quality of feeling and feeling of quality, between receiving and reconstructing the knowledge of a reality. But at the end we must confess that the notion of real cognition involves an unmediated dualism of the knower and the known. See Bowne's *Metaphysics*, New York, 1882, pp. 403-412, and various passages in Lotze, *eg., Logic*, § 308.

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A feeling feels as a gun shoots. If there be nothing to be felt or hit, they discharge themselves *ins Blaue hinein*. If, however, something starts up opposite them, they no longer simply shoot or feel, they hit and know.

But with this arises a worse objection than any yet made. We the critics look on and see a real q and a feeling of q; and because the two resemble each other, we say the one knows the other. But what right have we to say this until we know that the feeling of q means to stand for or represent just that *same* other q? Suppose, instead of one q, a number of real q's in the field. If the gun shoots and hits, we can easily see which one of them it hits. But how can we distinguish which one the feeling knows? It knows the one it stands for. But which one *does* it stand for? It declares no intention in this respect. It merely resembles; it resembles all indifferently; and resembling, *per se*, is not necessarily representing or standing-for at all. Eggs resemble each other, but do not on that account represent, stand for, or know each other. And if you say this is because neither of them is a *feeling*, then imagine the world to consist of nothing but toothaches, which *are* feelings, feelings resembling each other exactly,—would they know each other the better for all that?

The case of q being a bare quality like that of toothache-pain is quite different from that of its being a concrete individual thing. There is practically no test for deciding whether the feeling of a bare quality means to represent it or not. It can *do* nothing to the quality beyond resembling it, simply because an abstract quality is a thing to which nothing can be done. Being without context or environment or *principium individuationis*, a quiddity with no hæcceity, a Platonic idea, even duplicate editions of such a quality (were they possible), would be indiscernible, and no sign could be given, no result altered, whether the feeling meant to stand for this edition or for that, or whether it simply resembled the quality without meaning to stand for it at all. Of our quality, resembling the feeling, and supposed to form the only reality in the world, we can say, however, that it is known to the feeling as much as in the nature of things it can possibly be known to any cognitive agency whatever, however perfect,—the feeling knowing of it all there is to be known, and standing for it and discriminating it as much as it admits of being discriminated and stood-for at all.

If now we grant a genuine pluralism of editions to the quality q, by assigning to each a *context* which shall dis-

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tinguish it from its mates, we may proceed to explain which edition of it the feeling knows, by extending our principle of resemblance to the context too, and saying the feeling knows the particular *q* whose context it most exactly duplicates. But here again the theoretic doubt recurs: duplication and coincidence, are they knowledge? The gun shows which *q* it points to and hits, by *breaking* it. Until the feeling can show us which *q* it points to and knows, by some equally flagrant token, why are we not free to deny that it either points to or knows any one of the *real q*'s at all, and to affirm that the word "resemblance" exhaustively describes its relation to the reality?

Well, as a matter of fact, every actual feeling *does* show us, quite as flagrantly as the gun, which *q* it points to; and practically in concrete cases the matter is decided by an element we have hitherto left out. Let us pass from abstractions to possible instances, and ask our obliging *deus ex machina* to frame for us a richer world. Let him send me, for example, a dream of the death of a certain man, and let him simultaneously cause the man to die. How would our practical instinct spontaneously decide whether this were a case of cognition of the reality, or only a sort of marvellous coincidence of a resembling reality with my dream? Just such puzzling cases as this are what the "Society for Psychical Research" is busily collecting and trying to interpret in the most reasonable way.

If my dream were the only one of the kind I ever had in my life, if the context of the death in the dream differed in many particulars from the real death's context, and if my dream led me to no action about the death, unquestionably we should all call it a strange coincidence, and naught besides. But if the death in the dream had a long context, agreeing point for point with every feature that attended the real death; if I were constantly having such dreams, all equally perfect, and if on awaking I had a habit of acting immediately as if they were true and so getting 'the start' of my more tardily informed neighbours,—we should probably all have to admit that I had some mysterious kind of clairvoyant power, that my dreams in an inscrutable way meant just those realities they figured, and that the word "coincidence" failed to touch the root of the matter. And whatever doubts anyone preserved would completely vanish, if it should appear that from the midst of my dream I had the power of *interfering* with the course of the reality, and making the events in it turn this way or that, according as I dreamed they should. Then at least it

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would be certain that my waking critics and my dreaming self were dealing with the *same*.

And thus do men invariably decide such a question. *The falling of the dream's practical consequences* into the real world, and the *extent* of the resemblance between the two worlds are the criteria they instinctively use.[1] All feeling is for the sake of action, all feeling results in action,—to-day no argument is needed to prove these truths. But by a most singular disposition of nature which we may conceive to have been different, *my feelings act upon the realities within my critic's world*. Unless, then, my critic can prove that my feeling does not "point to" those realities which it acts upon, how can he continue to doubt that he and I are alike cognisant of one and the same real world? If the action is brought about in one world, that must be the world the feeling intends; if in another world, *that* is the world the feeling has in mind. If your feeling bear no fruits in my world, I call it utterly detached from my world; I call it a solipsism, and call its world a dream-world. If your toothache do not prompt you to *act* as if I had a toothache, nor even as if I had a separate existence; if you neither say to me, "I know now how you must suffer!" nor ask me, "Do you know a remedy?" I deny that your feeling, however it may resemble mine, is really cognisant of mine. It gives no *sign* of being cognisant, and such a sign is absolutely necessary to my admission that it is.

Before I can think you to mean my world, you must affect my world; before I can think you to mean much of it, you must affect much of it; and before I can be sure you mean it *as I do*, you must affect it *just as I should* if I were in your place. Then I, your critic, will gladly believe that we are thinking, not only of the same reality, but that we are thinking it *alike*, and thinking a great part of its extent.

Without the practical effects of our neighbour's feelings

[1] The thoroughgoing objector might, it is true, still return to the charge, and, granting a dream which should completely mirror the real universe, and all the actions dreamed in which should be instantly matched by duplicate actions in this universe, still insist that this is nothing more than Leibnizian harmony, and that it is as far as ever from being made clear whether the dream-world refers to that other world, all of whose details it so closely copies. This objection leads deep into metaphysics. I do not impugn its importance, and justice obliges me to say that but for the teachings of my colleague, Dr. Josiah Royce, I should neither have grasped its full force nor made my own practical and psychological point of view as clear to myself as it is. On this occasion I prefer to stick steadfastly to that point of view; but I hope that Dr. Royce's more fundamental criticism of the function of cognition may ere long see the light.

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on our own world, we should never suspect the existence of our neighbour's feelings at all, and of course should never find ourselves playing the critic as we do in this article. The constitution of nature is very peculiar. In the world of each of us are certain objects called human bodies, which move about and act on all the other objects there, and the occasions of their actions are in the main what the occasions of our actions would be, were they our bodies. They use words and gestures, which, if we used them, would have thoughts behind them,—no mere thoughts "*überhaupt*," however, but strictly determinate thoughts. I think you have the notion of fire in general, because I see you act towards this fire in my room just as I act towards it,—poke it and present your person towards it, and so forth. But that binds me to believe that if you feel "fire" at all, *this* is the fire you feel. As a matter of fact, whenever we constitute ourselves into psychological critics, it is not by dint of discovering which reality a feeling "resembles" that we find out which reality it means. We become first aware of which one it means, and then we suppose that to be the one it resembles. We see each other looking at the same objects, pointing to them and turning them over in various ways, and thereupon we hope and trust that all of our several feelings resemble the reality and each other. But this is a thing of which we are never theoretically sure. Still, it would practically be a case of *Grübelsucht*, if a ruffian were assaulting and drubbing my body, to spend much time in subtle speculation either as to whether his vision of our two bodies resemble mine, or as to whether the body he really *meant* to insult were not some body in his mind's eye, altogether other from my own. The practical point of view brushes such metaphysical cobwebs away. If what we have in mind be not *my* body, why call we it a body at all? His mind is inferred as a certain ejective term, to whose existence the things that happen in our two bodies point. The inference is quite void if the term, once inferred, be separated from its connexion with the two bodies that made me infer it, and connected with others that are no objects of mine at all. No matter for the metaphysical puzzle of how our two minds, the ruffian's and mine, *can* mean the same bodies. Men who see each other's bodies sharing the same space, treading the same earth, splashing the same water, making the same air resonant, and pursuing the same game and eating out of the same dish, will never practically believe in a pluralism of solipsistic worlds.

Where, however, the actions of one mind seem to take no

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effect in the world of the other, the case is different. This is what happens in poetry and fiction. Everyone knows *Ivanhoe*, for example; but so long as we stick to the story pure and simple without regard to the facts of its production, few would hesitate to admit that there are as many different "Ivanhoes" as there are different minds cognisant of the story.[1] The fact that all these "Ivanhoes" *resemble* each other does not prove the contrary. But if an alteration invented by one man in his version were to reverberate immediately through all the other versions, and produce changes therein, we should then easily agree that all these thinkers were thinking the *same* "Ivanhoe," and that, fiction or no fiction, it formed a little world common to them all.

Having reached this point, we may take up our thesis and improve it again. Still calling the reality by the name of q and letting the critic's feeling vouch for it, we can say that any other feeling will be held cognisant of q, provided it both resemble q, and refer to q, as shown by its either modifying q directly, or modifying some other reality, p or r, which the critic knows to be continuous with q. Or more shortly, thus: *The feeling of q knows whatever reality it resembles, and either directly or indirectly operates on.* If it resemble without operating, it is a dream; if it operate without resembling, it is an error.[2]

[1] That is, there is no *real* "Ivanhoe," not even the one in Sir Walter Scott's mind as he was writing the story. That one is only the *first* one of the "Ivanhoe"-solipsisms. It is quite true we can *make* it the real "Ivanhoe" if we like, and then say that the other "Ivanhoes" know it or do not know it, according as they refer to and resemble it or no. This is done by bringing in Sir Walter Scott himself as the *author* of the real "Ivanhoe," and so making a complex object of both. This object, however, is not a story pure and simple. It has dynamic relations with the world common to the experience of all the readers. Sir Walter Scott's "Ivanhoe" got itself printed in volumes which we all can handle, and to any one of which we can refer to see which of our versions be the true one, *i.e.*, the original one of Scott himself. We can see the manuscript; in short we can get back to the "Ivanhoe" in Scott's mind by many an avenue and channel of this real world of our experience,—a thing we can by no means do with either the Ivanhoe, or the Rebecca, either the Templar or the Isaac of York, of the story taken simply as such, and detached from the conditions of its production. Everywhere, then, we have the same test: can we pass continuously from two objects in two minds to a third object which seems to be in *both* minds, because each mind feels every modification imprinted on it by the other? If so, the first two objects named are derivatives, to say the least, from the *same* third object, and may be held, if they resemble each other, to refer to one and the same reality.

[2] Among such errors are those cases in which our feeling operates on a reality which it does partially resemble, and yet does not intend: as for instance, when I take up your umbrella, meaning to take my own. I can-

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It is to be feared that the reader may consider this formula rather insignificant and obvious, and hardly worth the labour of so many pages, especially when he considers that the only cases to which it applies are *percepts*, and that the whole field of symbolic or conceptual thinking seems to elude its grasp. Where the reality is either a material thing or act, or a state of the critic's consciousness, I may both mirror it in my mind and operate upon it as soon as I perceive it. But there are many cognitions, universally allowed to be such, which neither mirror nor operate on their realities. As Reid says, "every man knows that he can relate the pain he suffered, not only without pain, but with pleasure; and that to suffer pain and think of it, are things which differ totally in kind and not in degree only".

In the whole field of symbolic thought we are universally held both to intend, to speak of, and to reach conclusions about—to know, in short—particular realities, without having in our subjective consciousness any mind-stuff out of which an image of them might be framed. We are instructed about them by language which awakens no substantive consciousness beyond its sound; and we know

not be said here either to know your umbrella, or my own, which latter my feeling more completely resembles. I am mistaking them both, misrepresenting their context, &c.

We have spoken in the text as if the critic were necessarily one mind, and the feeling criticised another. But the criticised feeling and its critic may be earlier and later feelings of the same mind, and here it might seem that we could dispense with the notion of operating, to prove that critic and criticised are referring to and meaning to represent the *same*. We think we see our past feelings directly, and know what they refer to without appeal. At the worst, we can always fix the intention of our present feeling and *make* it refer to the same reality to which any one of our past feelings may have referred. So we need no "operating" here, to make sure that the feeling and its critic mean the same real *q*. Well, all the better if this is so! We have covered the more complex and difficult case in our text, and we may let this easier one go. The main thing at present is to stick to practical psychology, and ignore metaphysical difficulties.

One more remark. Our formula contains, it will be observed, nothing to correspond to the great principle of cognition laid down by Professor Ferrier in his *Institutes of Metaphysic* and apparently adopted by all the followers of Fichte, the principle, namely, that for knowledge to be constituted there must be knowledge of the knowing mind along with whatever else is known: not *q*, as we have supposed, but *q plus myself*, must be the least I can know. It is certain that the common sense of mankind never dreams of using any such principle when it tries to discriminate between conscious states that are knowledge and conscious states that are not. So that Ferrier's principle, if it have any relevancy at all, must have relevancy to the metaphysical possibility of consciousness at large, and not to the practically recognised constitution of cognitive consciousness. We may therefore pass it by without further notice here.

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which realities they are by the faintest and most fragmentary glimpse of some remote context they may have and by no direct imagination of themselves. As minds may differ here, let me speak in the first person. I am sure that my own current thinking has *words* for its almost exclusive subjective material, words which are made intelligible by being referred to some reality that lies beyond the horizon of direct consciousness, and of which I am only aware as of a *terminus* existing in a certain direction, to which the words might, but do not, lead. The *subject*, or *topic*, of the words is usually something *towards* which I mentally seem to pitch them in a backward way, almost as I might jerk my thumb over my shoulder to point at something, without looking round, if I were only entirely sure that it was there. The *upshot*, or *conclusion*, of the words is something towards which I seem to incline my head forwards, as if giving assent to its existence, though all my mind's eye catches sight of may be some tatter of an image connected with it, which tatter, however, if only endued with the feeling of familiarity and reality, makes me feel that the whole to which it belongs is rational and real, and fit to be let pass.

Here then is cognitive consciousness on a large scale, and yet what it knows, it hardly resembles in the least degree. The formula last laid down for our thesis must therefore be made more complete. We may now express it thus: *A Percept knows whatever reality it directly or indirectly operates on and resembles; a Conceptual Feeling, or Thought, refers to, and takes cognisance of,*[1] *a reality, whenever it actually or potentially terminates in a percept that operates on or resembles that reality.* The percept may be either sensation or sensorial idea; and when I say the thought must *terminate* in such a percept, I mean that it must be aware of the percept in one of those dim ways described in a former article,[2] that it must consciously look in the direction thereof, and ultimately be capable of leading up thereto,—by the way of practical experience, if the terminal feeling be a sensation; by the way of logical or habitual suggestion, if it be only an image in the mind.

Let an illustration make this plainer. I open the first book I take up, and read the first sentence that meets my eye: "Newton saw the handiwork of God in the heavens as plainly as Paley in the animal kingdom". I immediately

[1] Is an incomplete "thought about" that reality, that reality is its "topic," &c. See MIND XXXIII. 23.

[2] *Ibid.*, pp. 14-17, 19, 23-24.

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look back and try to analyse the subjective state in which I rapidly apprehended this sentence as I read it. In the first place there was an obvious feeling that the sentence was intelligible and rational and related to the world of realities. There was also a sense of agreement or harmony between "Newton," "Paley," and "God". There was no apparent image connected with the words "heavens," or "handiwork," or "God"; they were words merely. With "animal kingdom" I think there was the faintest consciousness (it may possibly have been an image of the steps) of the Museum of Zoology in the town of Cambridge where I write. With "Paley" there was an equally faint consciousness of a small dark leather book; and with "Newton" a pretty distinct vision of the right-hand lower corner of a curling periwig. This is all the mind-stuff I can discover in my first consciousness of the meaning of this sentence, and I am afraid that even not all of this would have been present had I come upon the sentence in a genuine reading of the book, and not picked it out for an experiment. And yet my consciousness was truly cognitive. The sentence is "about realities" which my psychological critic—for we must not forget him—acknowledges to be such, even as he acknowledges my distinct feeling that they *are* realities, and my acquiescence in the general rightness of what I read of them, to be true knowledges on my part.

Now what justifies my critic in being as lenient as this? This singularly inadequate consciousness of mine, made up of symbols that neither resemble nor affect the realities they stand for,—how can he be sure it is cognisant of the very realities he has himself in mind?

He is sure because in countless like cases he has seen such inadequate and symbolic thoughts, by developing themselves, terminate in percepts that practically modified and presumably resembled his own. By "developing" themselves is meant obeying their tendencies, following up the suggestions nascently present in them, moving in the direction in which they seem to point, clearing up the penumbra, making distinct the halo, unravelling the fringe, which is part of their composition, and in the midst of which their more substantive kernel of subjective content seems consciously to lie. Thus I may develop my thought in the Paley direction by procuring the brown leather volume and bringing the passages about the animal kingdom before the critic's eyes. I may satisfy him that the words mean for me just what they mean for him, by showing him *in concreto* the very animals and their arrangements, of which the

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pages treat. I may get Newton's works and portraits; or if I follow the line of suggestion of the wig, I may smother my critic in seventeenth-century-matters pertaining to Newton's environment, to show that the word Newton has the same *locus* and relations in both our minds. Finally I may, by act and word, persuade him that what I mean by God and the heavens and the analogy of handiworks, is just what he means also.

My demonstration in the last resort is to his *senses*. My thought makes me act on his senses much as he might himself act on them, were he pursuing the consequences of a perception of his own. Practically then *my* thought terminates in *his* realities. He willingly supposes it, therefore, to be *of* them, and inwardly to *resemble* what his own thought would be, were it of the same symbolic sort as mine. And the pivot and fulcrum and support of his mental persuasion, is the sensible operation which my thought leads me, or may lead, to effect—the bringing of Paley's book, of Newton's portrait, &c., before his very eyes.

In the last analysis, then, we believe that we all know and think about and talk about the same world, because we believe our *percepts* are possessed by us in common. And we believe this because the percepts of each one of us seem to be changed in consequence of changes in the percepts of someone else. What you mean by me is in the first instance a percept of your own. Unexpectedly, however, I open and show you a book, uttering certain sounds the while. These acts are also your percepts, but they so resemble acts of yours with feelings prompting them, that you cannot doubt I have the feelings too, or that the book is one book felt in both our worlds. That it is felt in the same way, that my feelings of it resemble yours, is something of which we never can be sure, but which we assume as the simplest hypothesis that meets the case. As a matter of fact, we never *are* sure of it, and, as *Erkenntnisstheoretiker*, we can only say that of feelings that should *not* resemble each other, both could not know the same thing at the same time in the same way.[1] If each holds to its own percept as the reality, it is bound to say of the other percept, that, though it may *intend* that reality, and prove this by working change upon it, yet, if it do not resemble it, it is all false and wrong.[2]

[1] Though both might terminate in the same thing and be incomplete thoughts "about" it.

[2] The difference between Idealism and Realism is immaterial here. What

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If this be so of percepts, how much more so of higher modes of thought! Even in the sphere of sensation individuals are probably different enough. Comparative study of the simplest conceptual elements seems to show a wider divergence still. And when it comes to general theories and emotional attitudes towards life, it is indeed time to say with Thackeray, "My friend, a different universe walks about under your hat and under mine".

What can save us at all and prevent us from flying asunder into a chaos of mutually repellent solipsisms? Through what can our several minds commune? Through nothing but the mutual *resemblance* of those of our feelings which have this strange power of modifying each other, *which are mere dumb knowledges-of-acquaintance*, and which must also resemble their realities or not know them aright at all. In such pieces of knowledge-of-acquaintance all our knowledge-about must end, and carry a sense of this possible termination as part of its content. These percepts, these *termini*, these sensible things, these mere matters-of-acquaintance, are the only realities we ever directly know, and the whole history of our thought is the history of our substitution of one of them for another, and the reduction of the latter to the status of a conceptual sign. Contemned though they be by some thinkers, these sensations are the mother-earth, the anchorage, the stable rock, the first and last limits, the *terminus a quo* and the *terminus ad quem* of the mind. To find such sensational *termini* should be our aim with all our higher thought. They end discussion; they destroy the false conceit of knowledge; and without them we are all at sea with each other's meaning. If two men act alike on a percept, they believe themselves to feel alike about it; if not, they may suspect they know it in differing ways. We can never be sure we understand each other till we are able to bring the matter to this test.[1] This

is said in the text is consistent with either theory. A law by which my percept shall change yours directly is no more mysterious than a law by which it shall first change a reality, and then the reality change yours. In either case you and I seem knit into a continuous world, and not to form a pair of solipsisms.

[1] "There is no distinction of meaning so fine as to consist in anything but a possible difference of practice. . . . It appears, then, that the rule for attaining the [highest] grade of clearness of apprehension is as follows: Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object." Charles S. Peirce: "How to make our Ideas clear," in *Popular Science Monthly*, New York, January, 1878, p. 293.

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is why metaphysical discussions are so much like fighting with the air; they have no practical issue of a sensational kind. "Scientific" theories, on the other hand, always terminate in definite percepts. You can deduce a possible sensation from your theory and, taking me into your laboratory, prove that your theory is true of my world by giving me the sensation then and there. Beautiful is the flight of conceptual reason through the upper air of truth. No wonder philosophers are dazzled by it still, and no wonder they look with some disdain at the low earth of feeling from which the goddess launched herself aloft. But woe to her if she return not home to its acquaintance; "*Nirgends haften dann die unsicheren Sohlen*": every crazy wind will take her, and, like a fire-balloon at night, she will go out among the stars.

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III.—KANT HAS *NOT* ANSWERED HUME.[1]

By Dr. J. HUTCHISON STIRLING.

II.

WHAT we have to see on the part of Kant is his answer to Hume. We have to consider, first, did Kant fairly understand what Hume meant in reference to the element of necessity that characterised the inference from effects to causes? Second, did he fairly demonstrate Hume's own answer to be incompetent? And, third, did he fairly answer the problem—did he fairly bring forward such explanation as enabled every beneficiary of it to see clearly the reason of the necessity in question, to see clearly why it was that it was impossible for any change to take place without a cause?

Now the first two of these questions I answer unhesitatingly in the affirmative; but the last, on the contrary, I answer as unhesitatingly in the negative.

One or two passages in the very opening of the *Prolegomena* are quite conclusive of themselves in regard to the first question. Hume (says Kant in these) "proved incontrovertibly that it is altogether impossible for reason to think *à priori* and from ideas any such connexion as the connexion of cause and effect, for that connexion implies necessity". There we see plainly that Kant perfectly understands the angle of Hume's question, the whence of necessity, namely, in the causal inference. At the same time we may, in passing, quite justly take exception to Kant's other words in the statement. I do not know that it can be truly said of Hume that he proved—whatever he may have proved—"*à priori* and from ideas". At all events, he would hardly have used such language himself in description of his action. He simply pointed out that, in the relative objects themselves, neither before the event, nor after the event, could we perceive any tie that bound them (the objects in the event) *necessarily* together. Such procedure is hardly to be spoken of as "a proof," "*à priori*," and "from ideas," in the rigorously exact and peremptory manner adopted by Kant. On the contrary, in Hume it is mere assertion of an assumed state of the case on its simply being looked at; or, at most and best, it is but an appeal to the experience of the

[1] Concluded from MIND XXXVI.

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reader. But what is most wonderful, when we consider the actual words, is that Kant's own eventual pretensions are to "a proof," "*à priori*," and "from ideas"—this, at the very moment that he asserts any such achievement to have been incontrovertibly "proved" by Hume to be impossible! So far at least as words go, surely Kant defeats his own self here by a direct anticipatory suicide. It might not be difficult to explain this; but it is not worth stopping for. What we have to see at present is that Kant signalised the necessity. "The question with Hume," he says, "was only of the *source* of this idea, not of the indispensableness of it in *use;*" and he very justly censures Reid and the rest for their quite inexcusable misapprehensions.

As concerns the second question, a quotation or two will also suffice.

"Hume derived the idea of necessity from experience, namely, from custom, or a *subjective* necessity due to repeated association in experience, and so at last erroneously taken for objective (*WW.* ii. 728). What is the secret *x* here, on which the understanding supports itself when it believes itself to discover outside of A, and alien to A, a predicate B, that is nevertheless united to it? Experience it cannot be, for the enunciation concerned unites the one thing to the other, not only with greater generality than experience can provide, but even with the expression of necessity (*ib.* 23). In the proposition that every change *must* have a cause, the very idea of a cause so manifestly implies the idea of necessity in the union with an effect, and of a rigorous universality of rule, that it would be quite lost, did we derive it, as Hume has done, from a repeated association of what happens with what precedes, and a consequent habit (mere subjective necessity) of uniting ideas (*ib.* 698). How is it possible, said the discriminating Hume, that, if an idea be given me, I can go beyond or outside of it, and join with it another idea, not at all contained in it—conjoin them, in fact, so as though the one belonged of necessity to the other. Only experience can supply such unions, and all that supposed necessity is nothing but a long custom of *finding* something true, and so of taking a subjective necessity to be an objective one (iii. 30, ff.)."

Reflection on these passages cannot fail to prove to the reader that Kant, while perfectly recognising and understanding both the question and the answer of Hume, quite as perfectly recognised and understood the inadequacy and incompetency of the latter to the former. If I ask for an insight, an intellectual perception, into the *reason* of a *truth*, universal and common to us all, it is in vain to refer me to a mere *feeling*, an instinctive feeling, of my own, that has only grown up in me in consequence of my just being in the habit of, from day to day, seeing such things.

When this dropping of a particle of ink occasions a stain on the paper, I am sure that there is a reason for it that does not lie in me, but in the things themselves. You

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cannot stave me off by saying the reason you want is just that you have seen the same thing before, and you have got into the habit of expecting it; the supposed necessity is but a *feeling* of yours; it is not an element in the facts; neither, consequently, does it admit of — nor does it call for — being intellectually seen into. To this, of course, one can only shake one's head. I feel, I know that it is not custom, it is not a habit in me, but a truth in the facts themselves that necessarily connects them, the one with the other. The union between the *word* cause and the meaning it suggests, is now, by habit, custom, a spontaneous, instantaneous, fixed and necessary one in my mind; but still the word and the meaning, thus inseparably united by habit, are not together the one as cause and the other as effect: they are together, after all, only by arbitrary association; and, really, any other combination of letters might have been assumed to represent the same idea. *Cause, cause,* to almost every Chinaman or Turk—*cause, cause,* to Plato and Aristotle, were simply gibberish. Here, then, we have a perfect example of the necessity of habit; but it shows at once as essentially different from the connexion of ink-drop and paper-stain. The necessity of union, conjunction, or connexion in this latter case, let its source be what it may, let it depend on what it may, let its reason, its *rationale* be what it may, lies manifestly, obviously, evidently—self-evidently—in the facts themselves. It is not in me, it is not a feeling of mine; it is a thing that, as having a reason of its own, I want to see into.

Well, then, it is to the explanation of this that Kant, after Hume's failure, and in full view of it, now fairly, faithfully and confidently addresses himself. "Here is now the place," he intimates (iii. 73), "to raze Hume's doubt to the very foundation [Hier ist nun der Ort den Hume'schen Zweifel aus dem Grunde zu heben]." But before proceeding to this, intelligence for ourselves, as well as justice for Kant, demands that we should provide ourselves with the general idea of Kant in his main critical action. From the Introduction to the *Prolegomena* I quote as follows:—

"I shall take it upon me to say that the unprejudiced reader will not merely have doubts in regard to metaphysic as yet, but will, in the end, be completely convinced that any such science is completely impossible unless with satisfaction of the requirements here made. . . . No event has taken place which might have been more decisive as regards the destiny of this science than the foray of David Hume. He threw no light, but he struck a spark, which, &c. . . . This hint of David Hume's was what, years ago, first broke my dogmatic slumber. . . . I tried first, then, whether Hume's observation might not be made general, and soon found that the idea of the

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connexion of cause and effect was not by any means the only one through which the understanding *à priori* thinks to itself connexions among things, but rather that metaphysic simply consists of such. I endeavoured to assure myself of their number, applying for that purpose a single principle; and this succeeding to my wish, I set about their deduction. . . . Thus it was my fortune to succeed in the solution of the Humian problem, *not merely in a particular case, but in respect of the entire faculty of pure reason.* I was able to advance slowly but surely towards an ultimate determination *of the total sphere of pure reason*, as well in its limits as in its contained matter: which was precisely what was wanted to secure finally, *for metaphysic*, on a safe and certain plan, *its own entire system.*"

What I want to show by this extract is that Kant's whole work (and what alone led to all the others, Fichte, Schelling, Hegel) rose out of one consideration only. What was—whence was—that very strange and peculiar species of necessity to which Hume had drawn attention in the phenomena of cause and effect? That was the one spore, as it were the bean on the stalk of which, up there in the clouds, there rests the palace of more than one giant—perhaps in dream. In a word, to Kant metaphysic itself, to us the *Kritik of Pure Reason*, nay, German philosophy as a whole, has absolute foundation in the *whence* or *why* of *necessary connexion.* Such necessary connexion exhibited itself, in the course of the reflections of Kant, not as confined to causality alone, but as common (and, at the same time, peculiar) to all the propositions that collectively constituted what science there was of metaphysic proper. It was therefore a general problem that was concerned, and no special one. The discovery of its solution would realise at last what had been so long the dream of philosophy!

What was this one quality, then, that was at once common and peculiar to all these propositions?

A proposition is a judgment, and a judgment is a declaration of one thing of another. Now, evidently, the important point is—the *reason* of the declaration. *Why* do I declare A of B—*why* do I declare the predicate of the subject? All bodies are extended; some bodies are heavy; the three angles in all triangles are equal to two right angles. Is the reason of the declaration—the fulcrum on which it rests—in all these three propositions the same? No. Extension is *implied* in bodies: I cannot think a body without thinking it as extended. I can, however, think a body as light; *all* bodies are not heavy. Heaviness, then, is not, as extension is, *implied* in bodies. It is plain, therefore, that the fulcrum on which the declaration rests, is, in these two propositions, a different one. Now, to say it at once, this difference is that of analysis and synthesis. If I declare

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extension of *body*, it is because I see by analysis that the notion or idea *body* already, or just of itself, *contains* the sub-notion or sub-idea *extension*. But this is not my reason for declaring *heaviness* of bodies. I can declare, of anything whatever, all that it *means*. I can declare transparency of windows, opacity of blinds, seclusion of islands, continuity of continents, necks of peninsulas, outlet and inlet of doors, ventilation of chimneys, &c., &c. To say windows are not transparent, blinds not opaque, islands not secluded, &c., &c., would be to deny of these objects their very meaning—would be self-contradictory and therefore false. What is *implied*—consequently, a sub-notion—is true of its notion; otherwise there would be a self-contradiction. That, then, is the *rationale* of the analytic judgment. Some bodies are heavy—this is a proposition that, not being analytic, must be synthetic. That is, it is by reason of a synthesis that I declare of certain bodies heaviness. Where do I find the synthesis? In experience. I have balanced certain bodies in scales or in my hand, and *found* them heavy. I do not find this out by analysis; I find it out by synthesis. I apply to experience, and it extends to me the synthesis. Is it true, now, that we must affirm the idea due to the synthesis under the same test as that under which we must affirm the idea due to the analysis—that it would be a self-contradiction, namely, to affirm otherwise? By no means. It is a contradiction to say, bodies are not extended; but it is no contradiction to say, all bodies are not heavy. The analytic proposition, then, is, on peril of its life (contradiction) true—necessarily true. But contradiction is not the life of the synthetic proposition. To one idea experience *does* add another, *we find*. But our only reason for the declaration is the *fact* of the *finding*. There would have been no contradiction had such and such *not* been found to be fact. Experience synthetically adds brittleness to glass; but it would be no contradiction were glass, as some glass might be, *found* infrangible. Experience adds softness to clay; but it would be no contradiction if it were found to be hard. Now these synthetic propositions of experience are called *matters of fact*: their *life* is simply the *finding*; *a fact* is just *found* to be the *fact* it is. The evidence of matters of fact, consequently, is *à posteriori*, while that of an analytic proposition is *à priori* (if only *relatively* so). I recognise bodies to be extended—*à priori*. That is, remaining by the subject, the idea, and not travelling beyond it—beforehand, as it were, before experience and in independence of it—I discover the truth. I recognise certain bodies, again, to be soft—*à pos-*

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teriori. That is, turning to experience, I discover the truth behindhand, as it were; that is, after experience, and in dependence on experience. Now these two species of evidence, the *à priori* and the *à posteriori* differ in their *validity:* the former (even though relative) is *apodictic* (*necessary and universal*), while the latter is only *contingent* (*probable*). That depends on the test of contradiction: bodies not extended, islands not secluded, chimneys not ventilating, would be contradictions. But bodies not heavy, clay not soft, glass not weak, would be none.

As for the third proposition that relates to the angles, we have already, in our Part I., seen all that is necessary to be said in its regard. Its *life*, and the life of all such, is neither analysis nor experience. Its life is *Relation of Ideas*. It is synthetic, yet not *à posteriori;* necessary, yet not analytic. An *à priori* synthetic, then! How is it possible? By discovery of the relation of ideas present in it. For its part, again, the discovery is effected either by *intuition* or *demonstration*. The truth of the straight line being the shortest is seen by intuition, intellectual perception of the relation of ideas exhibited. The truth of the proposition in regard to the angles is perceived through demonstration. But demonstration always leads back to intuition. Mathematical *à priori* synthetics are thus possible through intuition of the relations of ideas.

We have now to apply these principles to the propositions in question, examples of which are these. Every change must have a cause; The matter of the universe can neither be lessened nor increased; Action and re-action are always equal. In the first place, they are, evidently matter of fact. I must have experienced causes and effects, matter, action, &c., to know anything at all about them. Without experience cause would be a blank, effect a blank. In the second place, they are synthetic. The effect is not found by analysis in the cause; it is added to it by experience. In the third place, they are of an *à priori* validity. The validity in cause and effect is not just *found*. How do we know the sea in the Straits of Dover to be shallow, or the water of the Baltic to be brackish, or Arthur's Seat to have a bare rock on the top of it? Just because we find each statement to be *a fact*. But it would never come into our heads to say that Arthur's Seat *must* have a bare rock on the top of it, or that in the Straits of Dover the sea *must* be shallow. Of the three propositions above, however, we use *must;* and yet they are all three of them matters of fact, as much matters of fact as the three contingent propositions which we have

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just opposed to them. I can only know any cause, or any effect simply by experience, simply as a matter of fact; and yet I add to the connexion of them the expression of necessity. They are as necessary as all analytic propositions, and they are as necessary as all synthetic propositions that rest on the relation of ideas; and yet they owe their validity neither to the one principle nor the other. They are not analytic; and it is not the intuition of the relations of ideas that discovers their validity. Matters of fact that have yet the validity whether of analysis, or of the relations of ideas, —what shall we say of them? We can only say of them that they possess an *à priori* validity. There are thus two sorts of matters of fact: one that, like the ordinary findings of experience, are in validity *à posteriori*, and another that in validity are *à priori*. The latter, too, like the mathematical propositions, are *à priori synthetics!* The reason in the mathematical propositions we found to lie in a certain insight into relations of ideas; but we have no such insight here. Causes and effects are matters of fact; the terms are not mere ideas, and they are separate and different from each other. We are just forced to ask, then, how is it that *à priori* synthetic propositions, *in matters of fact*, are possible? That is the same question as to ask the *why* or *whence* of necessity in the proposition of causality, which, though a matter of fact and synthetic, is possessed of an *à priori* validity. That one question, as we have said, means the whole German action.[1]

What, then, was the peculiar quality in the propositions concerned, or, specially, what was the peculiar quality in the proposition of causality? Such propositions were all alike in this, that they were not judgments of identity through analysis. Neither was the source of the synthesis that bound together the *differents* in them, experience; for experience was incompetent to a *necessity* that was synthetic, and not analytic. This necessity, too, was not a mere *relative* necessity. We say the man who undermines his house may know beforehand, *i.e.*, *à priori*, the result; but the *à priori* here is only a relative *à priori*, dependent on, and derived

[1] A late excellent review-article on recent Kantian expositions quotes from one of these that the question: How are synthetic judgments *à priori* possible? "means simply this—How can the individual mind get beyond itself? how can we *know?*" The reviewer adds, "If this be the meaning, as no doubt it is, every sensible reader is prompted to ask, Then why should the philosopher not have said so in simple and intelligible language?" One finds this very natural on the part of the reviewer; but one must regret his falling on such a source of information, for the question concerned is simply Kant, and the *entire* Kant!

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from, what is itself derived from experience, the more general proposition that unsupported bodies fall. But a necessity that is *à priori*, and yet not relatively *à priori*, and still in matters of fact, is an *à priori* that is very particularly placed. Analysis is excluded, relation of ideas is excluded, nature is excluded,—there is no region or *locus* left for it *but the mind:* it must be truly, or strictly, or literally *à priori!*

We see here that Kant has raised causality into a vast general question, and can understand how, with the consequent inquest into the mind itself—that is, into reason as reason, *pure* reason, the original or *à priori* principles of knowledge as knowledge—we can understand, I say, how Kant, with this alone before him, may have left causality as causality, *so far*, out of view.

Seeing now, then, the whole general idea of Kant, we may better understand the part of it that relates to causality.

Kant's special answer to Hume occupies sections 28-31 of the *Prolegomena*. I have it here translated in full, but space fills up so quick that I shall extract only its essential moments:—

"I cannot think such *à priori* synthesis as we have seen in the propositions of cause, of substance, and of reciprocity to exist in sensations as sensations. We find examples of it, however, in the judgments of the understanding. There is the relation of antecedent and consequent, for instance. Now, we have not to do with things-in-themselves. Things-in-themselves we should have to take in *their* quality. That quality they would *dictate* to us, not take ours on them. The things we have to do with are sensations, affections of our own. But already ours, our own, us, it is quite conceivable how subjected, exposed to, received into other elements of us, they may take on modification from them. They are all subjective, all within; but, thus all homogeneous and in the same place, they must mutually meet and mingle, they must mutually interpenetrate, influence, and modify each other. It is a question to be entertained, then, that of the subsumption of sensations under the categories, under such judgments or notions as that of antecedent and consequent.

"It is by that we try now Hume's problem. First, there is *à priori* furnished me by logic the form of an hypothetical or conditional judgment, whereby to determine, namely, one given cognition as antecedent and another as consequent. Again, it is possible that there is met with [wird angetroffen] a rule of relation in the facts of sense, which rule declares, on one certain impression of sense, a certain other constantly to follow (though not *vice versâ*)—and this is a case in which to apply the hypothetical judgment, and say, for example, If a body be long enough shone upon by the sun, that body becomes warm. There is certainly not yet here a necessity of connexion, nor yet, consequently, the idea of a cause. But continuing I say further now, if the above proposition, which is as yet merely a subjective conjunction of impressions in sense, is to be a proposition of experience, then it must be regarded as necessarily and universally true. But such a proposition would then be this, The sun, by its

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light, is the cause of the warmth. The above rule in sense, for good now, becomes regarded as a law, and not as obtaining merely so far as impressions of sense *qud* impressions of sense, but as obtaining in these very impressions of sense, on behalf of a possible experience, which requires rules *universally and necessarily* valid. . . . The categories have no meaning whatever as applied to things-in-themselves. Neither have they any meaning whatever unless in application to the intimations of sense. They serve, as it were, only to syllabify sense, in order to enable it to be read as experience.

"This complete solution of Hume's problem—a result which would have surprised Hume himself—rescues for the categories their own *à priori* origin, and for the universal laws of nature their own validity, but still only so that it limits their application to experience alone, and for this reason, that their possibility has its foundation in the connexion of understanding with experience, not, nevertheless, so that they derive from experience, but, on the contrary, so that experience derives from them; which completely inverted mode of connexion never once struck Hume in the head."

The first paragraph, referred to Kant as above, will be found considerably expanded by him; but it will be found also here perfectly true to the thought. The hinge on which, in these expressions, all turns is a new general theory of perception, of which what relates to causation concerns but a part. The constitutive elements here are, first, sense, and second, understanding. On the first head, Kant is very exact in his discrimination, and desires us to see that the elements of sense in objects are, strictly, the sensations only which are set up within us—by what impressing agents we know not. Colours, mere states of the retina, are all we see; sounds, mere ringings in the ear, are all we hear; feels, mere states of our own (as warm or cold, &c.), are all we touch; and so of smell and taste. So far as sense is concerned, then, we only know such subjective states of our own. But, so far, plainly, these sensations, these mere subjective states of our own, are not what we call objects. While there is only a scarlet painting on my retina, I know that only, and nothing, as yet, of the scarlet curtain, as which I presently throw it out. In order that these internal feelings of my own should become *objects* of *experience*, these internal colours within me become alien things without me, the scarlet become a curtain, we must bring in among these feelings the second element, the categories, namely, and these are ready-formed notions of and in the understanding. Once that assemblage of colours on my retina—black, and white, and brown, and gray, and blue, and buff, all limited off and shaded against each other—*get categorised*, they (the colours) at once throw themselves without, and stand before me as an object—a man, say, so and so dressed. That land-

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scape which I now see as miles and miles of field and sea and sky is in the first instance,—is *always*, so far as sense is concerned—only so many greens and grays and blues within me: it is only by a further manipulation of my understanding that they have become the miles and miles of field and sea and sky.

Now we have to realise this in regard to the phenomena of causation. And here Kant will have it that a first and a second—in mere colours, say—are reduced into the relation of cause and effect, in consequence of my adding to the phenomena of sense, a category of the understanding that originates in the function of judgment, called antecedent and consequent. The first colour—only *first* so far as sense is concerned—gets, through action of the understanding, to be regarded as an antecedent, and the *second* similarly to be regarded as a consequent. But a *thing* that is an antecedent is a *cause*, while a thing that is a consequent is an *effect*. If the reader will but look back on the quotation he will find Kant's own authority for this statement quite complete (apart, for the nonce, *the rule in sense*).

Now, it will strike every one at once that, if these categories of ours are to convert *every* first into a cause and *every* second into an effect, they may be apt to initiate some very wild work. The first rain-drop is not the cause of the second, &c., &c., endlessly. Succession non-causal is, to say the least, as much a fact as succession causal itself. Must not my category be rather puzzled at times, then, as to whether it shall come out or sit still? I am not sure that Kant saw this at first; but I am inclined to believe he saw it at last—with cold perspiration enough! At all events there, in that direct formal application of his machinery to the problem of Hume, we see unmistakably introduced an expedient, as though directly in bar of the precise difficulty. If, first, for example, there is the logical contribution, the mental contribution, the category, prepared and lying in wait in the understanding; there is, second, in the impressions themselves (mere sense) "*a rule of relation*," whereby the one impression is *always* first and the other *always* second. As one sees, the spider of the category need not now feel a bit puzzled as to when it is to rush out and throw itself upon the web. In fact, as we might have seen just at once of ourselves from the mere state of the case, nothing less than this—an expedient like this—could be expected on the part of Kant. The category that is to be called out must plainly have its appropriate *cue;* and that

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cue, as plainly, can only be some element in the intimations of sense themselves. Here, in the phenomena of causality, it is characterised by Kant himself as "*a rule of relation*," through which what is first is given as *always* first and what second as *always* second, or the order is "*constant*".

Still, it is not from this rule that Kant will yet allow the distinctive *necessity* to emerge. No; that must be the work of the category, the rule of the understanding that only follows and adapts itself to the rule of sense. "It may happen," he says, "that a rule of relation is found present in the intimation of sense itself," and then, on this rule, which is a mere hint in sense, there follows the other rule, of a quite higher rank, force and quality, with the contribution of *necessity*—that necessity which is in question, and alone in question, whether to Hume, to Kant, or ourselves, in the problem before us.

The point is so very important that the reader will pardon my dwelling upon it. What has been said comes to this. Into a transparent gray on the retina of my eye, there enters another gray, which is only semi-transparent; and this latter becomes instantly an opaque white. So far, nevertheless, there is but an indifferent succession: first, a transparent gray; second, a semi-transparent gray, replacing a part of the first gray; and, third, an opaque white wholly replacing the second gray. Now, "if I perceive or assume," as Kant himself says elsewhere [wahrnehme, oder voraus annehme], that this will be always so, or that the succession is dictated by a rule of relation among the sense-units themselves, then, through intervention of my category, I am necessitated to regard the second gray become white as a change or effect due to the first gray as antecedent or cause. In the respective appearances, or phenomena, that is alone what Kant sees, and that is accurately what Kant sees. So far as solely sense is concerned, there is but a simple succession of three colours on the retina of the eye; and there is no reason *in sense* why they should be connected together rather than unconnected, or why they should follow each other precisely in that order rather than in any other. So far as I feel now this colour, now that one, and again a third, I only *feel;* and what I feel is a succession of three feels, each just what it is and no more: there is first this colour, then that one, then another. But in order that these *differents* should become mere items of a one, in order that they should be *connected*, and that too into a *necessity* and *universality* of connexion, there must fall from my understanding upon them one of my constitutive func-

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tions of judgment, that, to wit, named antecedent and consequent; and then the indifferent colours coalesce into the relation of cause and effect. The three colours here figured are that of water at 212°, that of white of egg as dropped into it, and that of this latter as acted on by the former. We call the hot water the cause of the change in the albumen, and this change we call the effect of the cause, the boiling water. Similarly any case of cause may be so treated. The discharge of a loaded pistol followed by the report must, if to be recognised, be first of all a mere sequence of sights and sounds in sense. The fall of a bridge in a river flood is but a yellow-gray on the retina of the eye disappearing in a shaded brown—one colour disappearing in another. A bit of saffron put into clean water; a lump of sugar dissolving in a tumbler; a prick of the skin and blood; lead melting in a ladle; water freezing in a glass, and again liquefying; kindling a match, or fire; extinguishing a torch; lighting the gas, and turning it out; opening the shutters and closing them; clouds and the sun; clouds and rain; winds and waves; winds and shadows on the grass:—in short, the thing is endless; but no one can consider any of these cases without acknowledging that, so far as sense is concerned, there is a mere indifferent succession of impressions, indifferently reaching consciousness, each good for itself, but each, *so far*, good only for itself, and quite independent of any other or all the others.

Now this is the turning-point. Kant, even to get the rule of his category in any such cases *to act*, is forced to postulate a rule already existent in the mere contributions of sense themselves. A rule subjective must precede the rule objective. Kant signifies as much as that; but he only signifies it. As for the source of the subjective rule, he has not a word to offer us. He only says that "it is possible that there is, or gets to be, found a rule of relation in the facts of sense, which rule already declares one sense-unit constantly to succeed another, but not *vice versâ*". ["Es ist aber möglich, dass in der Wahrnehmung eine Regel des Verhältnisses angetroffen wird, die da sagt: dass auf eine gewisse Erscheinung eine andere (obgleich nicht umgekehrt) beständig folgt."] And so far, be it observed, the facts are only subjective: it is the next step alone, the addition of the category, that makes them objective,—converts them into necessarily interconnected objects of actual experience.

There is no lack, elsewhere in Kant, of testimony to the same effect. We read, for example (ii. 168):—

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"In the synthesis of the sense-presentations, the units of these always follow one another. So far there is as yet not any consciousness of an object; for through this following, common as it is to all apprehensions, there is not as yet anything distinguished from another. So soon, however, as I observe, or by anticipation assume, that there is in this following a reference to the preceding state, on which state the present state ensues according to a rule, then I have something before me that so *happens*, or that is an event."

The apprehension of sense is, then, simply as such, always successive; but it is another matter with the objects that come to be formed out of the mere sense-apprehension. These may be successive, as in causality, or they may be at once and together, as in reciprocity. In fact, even an object as a one object, a single fixed object there before actual perception, a house, say, is but a co-existent together of many units of sense which can only have been successively apprehended.

This point, however, of the necessary presence of a rule in the facts of sense *before*—nay, actually *for*—the possible addition to them of the rule categorical, is so important, so crucial in its touch as it were, that I allow myself to quote still further in illustration.

And here it is in place to warn of a possible double use, on the part of Kant, of the term *experience*. When he talks of experience as being *à posteriori*, contingent, subjective, he thinks wholly and solely of the element of special sense that always forms a constituent part, the *matter*, of experience; whereas, when he opposes what he directly calls judgments of experience [Erfahrungsurtheile] to what again he calls judgments of sense-perception [Wahrnehmungsurtheile], he means by experience in that case—these same elements of sense certainly, but as now transfigured, raised into an entire new quality, by the addition of *form* in consequence of the entrance into them of a category. What was before experience subjective, contingent, *à posteriori*, is now experience objective, necessary, and (so far as *validity* is concerned) *à priori*,—in a word, *experience*, experience proper.

What I should like to quote now would be the whole of that portion of the *Prolegomena* which expressly treats of these two experiences, or of the two judgments which they respectively involve,—in the first instance, one subjective, and, again, for completion, another objective. This, in any fulness, however, would be out of place here. I shall confine myself, therefore, to a few of the more salient expressions; but I may refer, at the same time, to the Appendix in the

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Text-Book to Kant, where what is referred to will be found pretty well at full.

"The subjective judgment is without category and amounts only to the logical connexion of the impressions of sense in a thinking subject. So far, I merely compare, in a consciousness of my own sentient state, the units of sense-impression themselves; but, following this up, I unite, in the objective judgment, these units of sense-impression, under a category, into a one single consciousness as a conjunct whole, into a one single cognition. The necessity is never in the elements of sense, but only in the category under which they are subsumed. The first judgment is merely a conjoining of the units of impression in my state of feeling, without any reference to an object at all. The elements of sense must then be subsumed under a notion which prompts the form of judgment correspondent to them, connects them into a single cognition, and infuses necessity into what would be otherwise merely empirical. The sun shining on a stone, this latter becomes warm. The judgment, so far, is only one of sense, and implies no necessity. No matter how often I, or others, may have received these same sense-impressions, all that can be said, so far, is, that they have been *found* associated *usually* thus. It is the category changes all that into objective perception, into experience proper, experience that implies necessity. The category is added when, in the first judgment, the logical connexion of the units of sense has, through comparison, got to be made universal. The second judgment brings the impressions, according to their particular form in sense, under categories. The sense-impression is determined in respect of some one primary form of judgment rather than another. The *object-in-itself* is unknown, and never can be known; consequently, what we call perception of the object is no perception of *it*. Only the *feelings* set up in us *by* the *object-in-itself* (the impressions of sense) —only these categorised into a single cognition, constitute the object which we say we perceive. In the same way, in causality, I only, first of all, connect together two sensations in a mere subjective sense-judgment: it is the category converts them into an objective example of causation in experience proper. The categories are so many possible modes of uniting particulars of sense (sensations) into a single objective cognition in experience proper: they stand in connexion with correspondent moments, divisive and exhaustive of judgment as judgment, which similarly function unity of particulars of intellect (ideas). The notion of cause implies a rule, according to which out of one state of things another necessarily follows; but sense in experience can only show us that often—and, when it rises high, commonly—on one state of things another follows, and can extend, therefore, neither rigorous universality nor necessity. That warmth in the stone always follows the shining on it of the sun is, so far, only a judgment in sense and contingent."

The above are not always literal translations; but I am quite sure they always represent what meaning the original itself desires to convey. And I would point out, first, in them what vacillation they indicate as regards how much or how little the subjective judgment shall involve. We have seen already what, as regards causality, is said of *the rule in sense, the subjective judgment, the judgment of perception, sense-perception*. This is "*a rule of relation* which declares that, on a certain impression of sense, another (but *not conversely*) *constantly*

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follows". In the above we see, also, that (iii. 65) "comparison," even in the first judgment, has already made "the connexion of the units of sense" "universal [allgemein]"; and that this, too, is exemplified by the statement that warmth in the stone "always [jederzeit] follows" the shining on it of the sun. These three deliverances, as is evident, all cohere. But now there are others at variance with them. It is declared (66), for example, that the first judgment is a "uniting of impressions merely relatively to the subject and, consequently, only contingent and subjective". Again, in the same judgment, as concerns light from the sun and warmth in the stone, it is expressly said that their connexion, let all experience of ourselves or others be what it may, is something that is just *found* to be *usually* so and so; and then we hear lastly that the judgment of sense "can only show us that *often*, and, when it rises high, *commonly*, on one state of things another follows," &c. Once more we have three statements that cohere among themselves; but, surely, they directly oppose the others. In fact, as we conclude, Kant is found to be suspended here between his two perceptions of the state of the case. He perceives, first, that sense as sense is always contingent. But then he perceives, second, that if a sensation A and another sensation B are to be subsumed under the category and converted into an antecedent and consequent, they must of themselves have already given us reason to assume for them precisely that quality—precisely that relation! This latter perception we suppose to have come late to Kant; and it is precisely in consequence of this perception that we attribute the cold sweats to him which attend that endless tangle of the Second Analogy where we see only bewildered attempts to renew courage in himself by the constant *refrain*, Necessity of synthesis cannot be due to sense, and must be due to the understanding![1] But the renewed courage must ever fail again; for the perception cannot but return into sight: the causal manifold even in the apprehension of sense, the very terms in sensation that, just as sensations, are to be causally connected, cannot have in themselves an order that is indifferent; they must already have an order of their own, and a fixed order of their own; otherwise, where is the occasion, what ground can I see, what reason can I allege, for my making them examples, not of quantity, or reciprocity, or substance, say, but precisely of causality? That I merely

[1] I had already in 1867 strongly characterised the Second Analogy—see *Essays*, "Jerrold," &c., pp. 178-9.

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find the terms together is not enough; for in *every* apprehension of sense I find *its* constitutive terms, just as *there*, a mere *successive together*. If the together in sense is but a *frequent* one, a *usual* and *common* one—if it is only that, and no more than that, I cannot, simply of my own will, affix a stamp to it that will make *frequent* constant, *usual* invariable, and *common* universal—unless surreptitiously. Where were the warrant, the guarantee, the sponsor, for any such action on my part, or on the part of any organ or faculty of mine, whether overt or covert? Or is it possible to conceive that each category, quite unknown to me, without any consciousness on my part, might unerringly scent a case of its own, even as a dog a bone! Nay, if it did scent a case of its own, must it not have already scented, *even in the case*, the peculiar necessity, *i.e.*, of the *rule?*

Perhaps this is going something further than the actual conscience or consciousness of Kant; but it appears to me impossible to doubt that Kant did come to see the necessity of a recognised order of the terms even in sense, and correspondent to that of those (antecedent and consequent) in judgment—the necessity, I say, of this recognised correspondent order, *before* there could be so much as a motive for the category of causality to act. This, in fact, is precisely the import of that "rule of relation" even "in sense," the "finding" of which is to Kant "possible".

The word *rule* is of frequent occurrence, in a general sense, in both editions of the *Kritik*. Nay, the express rule subjective, the rule in sense, may be thought to be plainly and advisedly present even in the first edition, and antecedently, therefore, to the publication of the *Prolegomena*. Reference may be made, for example, to the very definition that was then, and is still, given of the actual *schema* of *causality*. Rule is expressly asserted of the relation of its contents. We find the same word, too, and a like assertion in reference to the *schema* of *reciprocity*. Still it would be a mistake to suppose that it is to the element of sense that the application is made. On the contrary, even then and there, rule must be referred to the category; for the *schema* is but a determination of the *category* in the *element* of *time*.

In point of fact, I can think of only one occasion on which a rule in sense itself would seem not obscurely to be referred to even in the first edition. It is the passage (ii. 168) already quoted at page 56 and elsewhere frequently referred to by me—the passage in which the key-notes are the expressions "But so soon as I perceive or assume," &c. Even here, however, it is still possible to doubt, for we may

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not have yet ceased to recollect that other phrase in the same neighbourhood (164) about its being "from the objective order of the facts that, in the case of the ship, I must infer the subjective order in apprehension," and not, as the *two* judgments would represent it in the *Prolegomena, vice versâ*. Nay, if we even look quite closely at what follows of the paragraph itself (see back), we shall be inclined to suspect, perhaps, that, after all, it is again the categorical rule that is in the mind of Kant. In the section on *Noumena* and *Phenomena*, too (ii. 202-204), there are again passages which seem, even glaringly, to refer the choice or determination of the special category to the specialty in sense; but I decide in the end that neither in them has Kant a thought of any necessary peculiarity in the elements of sense, but simply of the indispensable need of these as such to give *filling* to the categories, without which these latter would be but mere empty ideas in the mind.

The probable conclusion is that, *throughout the whole of his first edition*, Kant had no intention but to give it to be understood that all law, all rule, came into the elements of sense from the categories alone. This, too, *incredible as it may seem*, must be held to be the position of the commentators of Kant as a whole. To them, generally, the categories would seem to possess the magical power of creating nature itself! The so obvious necessity of a cue in sense in motive of the category, was too small and insignificant to be seen in the midst of such mightinesses and splendours!

If we recall for consideration that inference of "the subjective order" from "the objective order," it will suggest itself to us that *a* subjective order, a necessary subjective order, must have been present to the mind of Kant even as he spoke. Hence, possibly, all that floundering and misgiving tangle that followed! This is certain, at all events, that it does immediately follow—in the book. To talk of inferring the subjective order from the objective order is to betray a consciousness of this at last, that *a subjective order must have been*. If Kant never thought of it before, he must have thought *then*—Why, a certain order must be assumed as already present in the impressions themselves! But, be this as it may, it is quite certain that it is only in the *Prolegomena*, in what concerns the subjective judgment, namely, that we have explicit notice of this order on the part of Kant. If we withdraw, as I think we must, the single passage, ii. 168—and such withdrawal need not interfere with its use as it stands anywhere in these criticisms—there is not a vestige of the judgment in sense throughout the whole of the first

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edition of the *Kritik of Pure Reason*. Even in the second edition it is curious to remark that we find only one or two obscure and unapparent mere *implications* of the two judgments that, for the scheme as a whole, are so crucially important! The reader will most easily verify the *implication* alleged in § 19 of the altered *Deduction*, not, surely without thinking it strange that in all these additions, following as they do the publication of the *Prolegomena*, there should only be such mere implication of what this work almost seemed expressly there to demonstrate and enforce. Kant would seem to have thought in the end that it would be just as well to say the least possible in the *Kritik* about the distinction between the two judgments: there was still plenty of matter in the book with which it might seem not well to cohere!

The assumption on our part is, then, that it was only in writing his third (original) paragraph under the Second Analogy that the qualms of apprehended failure seized him.[1] These qualms, of course, had no need to be any longer felt the moment he turned himself to the Noumena-Phenomena, the Amphiboly, the Paralogisms, the Antinomies and all the other elaborate partitions of his enormous fabric. Still the *Prolegomena* enables us to see that Kant must have gone through even agonies of meditation between the two works. The consideration of the two judgments, with turning and turning of the same suggestions again and again, not without vacillation and contradiction as we have seen, is what occupies the longest and most elaborate portion of the *Prolegomena*. Our assumption involves also this, that Kant, till then, had never thought of order in the materials of sense; but that it had suddenly struck him *then*. To the order in the respective categories there must correspond an order in the respective sensations! The whole spirit of Kant's Deduction, quite certainly in his first edition, is that, as objects are but affections of our own, "in themselves scattered and isolated" (ii. 109), they can only become connected together, articulated, as it were, into a ruled and regulated context of experience, by the laws of the web itself within, into which they are received. "On the categories bases itself all the formal unity in the synthesis of the imagination, and, through it, of all further empirical application (in recognition, reproduction, association, apprehension) down to the impressions in sense, because these latter, only through said elements, can relate themselves to perception and con-

[1] Ich werde also," &c., ii. 164.

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sciousness and, consequently, to ourselves" (112). That is the idea. What we perceive are our own sensations within, which, as within, can only be wrought up further by our own principles within. All the *matter* of perception is but our own *affection*; and all its *form*, consequently, is but our own *function*. The categories (subjective intellect) just *checker* subjective sense into the objective universe. That rule, law, order, necessity itself, must already exist in the elements of sense even *for* the categories—that was an after-thought. This after-thought—But how, then, do the categories find their cues?—coming suddenly upon him in the end, with all his vast labour behind him, must have appalled him like the apparition of a ghost. Ah yes, law can be the product of the understanding alone, no repetition can make this clearer; but then sense itself must have one necessary order under causality, and quite another necessary order under reciprocity, or how could these categories themselves act without mutual interference and confusion, or how, indeed, could they know *when* to act at all? The single word *epigenesis*, and even as he uses it himself in his own regard, represents—and altogether adequately so—the entire Kant. He has but one operation all through, and it is the epigenesis of form on matter, of intellect on sense, of the form of intellect on the matter of sense. But the latter element, if it is to receive the former element, must, in some way or other, prove itself *homogeneous*; and if the former element come forward with a *variety*, it is evident that the latter element must rise to meet it with a *correspondently* homogeneous variety.

In the interval between the *Kritik* and the *Prolegomena*, Kant, having come to see this to be the state of the case, elaborated his preparations in accord. The result was the subjective judgment, the judgment of perception, the rule in sense, which is described as dependent, "not on a category" for its formation, but wholly and solely on the "logical connecting of the units of sense in the subjective consciousness". There is no ambiguity in the statement. On reception of the sensations, the first thing that happens is the logical mustering and connecting of them subjectively. This is a recognition; and what is recognised is "the *circumstances* or empirical conditions" through which "I am empirically conscious" of the native order in the units of sense themselves; whether, for instance, they are to be taken as, in actual fact, "together," or as, in actual fact, "successive". This, in short, is the ascertainment of the subjective rule, "the rule of relation," which, in causality for example,

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"declares that on a certain impression another (but not *vice versâ*) constantly follows". This rule it is, then, which, "according to the particular form of the impressions in sense," "determines one judgment (category) rather than another". The action in ascertainment of the subjective rule is further characterised as operating a certain "universality" on the impressions ["nachdem sie durch Vergleichung *allgemein gemacht* worden"]; but such universality, evidently, on Kant's own terms, cannot be "made"; it is a universality that results—in short, it is the *rule* that results the moment the units of sense are logically put together in the order and relations which the "comparison" detects (not makes) to be proper to them. And here we see that Kant has ceased to infer the subjective order from the objective order; he has now reversed the process, and infers the objective order from the subjective one. The rule in sense is *for* the rule in intellect, and not this for that. The one judgment explores the one rule; and the other the other. And here we shall not raise small difficulties, nor cavil at the use of words. "*Comparison*," even in sensations, we shall admit to be "logical," and at least, to lead to a "judgment".

What kept Kant blind at first, and probably for long, to the need of the subjective judgment—what drew off his attention from any one *part* of his scheme, as causality (say), was the *whole*, the ever-growing, glowing and expanding *idea*—the idea of that one "Verstandeshandlung," that one act of the intellect, which should involve all the others, and from which all the others should, in due co-ordination and subordination, organically complete, spring. Aesthetic, Analytic, Dialectic, Deductions of Categories, Constructions of Schematisms, Axioms, Anticipations, Analogies, Postulates, Amphibolies, Paralogisms, Antinomies, Architectonics —why, the little seed of *necessity* had for Kant, even as he looked at it, grown into the universe! What intelligence was there in all Germany—in the whole world—on which or whom it would not have imposed? More and more, from year to year and from day to day, as it grew, there, before his eyes, in proportions and in worth, it imposed on Kant himself. He got involved in his own volume, lost in his own bulk. In Germany, the traveller who has gone forth and is never heard of again, is said to be *verschollen*. There never was a German traveller more *verschollen* than Kant was. In an "Anhang" of the *Prolegomena*, he narrates his achievement thus:—

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"By researches into the pure (non-empirical) elements of human knowledge, it succeeded with me, first of all, after long meditation, with certainty and confidence to distinguish and separate the pure elementary notions of sense (space and time) from those of the understanding. And, now, I looked around me in search of some single principle of the understanding which, comprehending and covering all others, should distinguish itself only into a variety of modifications or moments whereby to bring the complex of sense-impression into the unity of thought. This, now, I found to be judgment. There lay for me work of the logicians already to hand (though not as yet free from defects), and I was thereby enabled to construct a complete table of the pure functions of the understanding. Referring these to objects, or rather to the condition determinative of objective validity, there took birth pure notions of the understanding, in respect of which I could feel free from doubt that precisely these, and precisely so many of them, no more and no less, exhausted our entire cognition of things, so far as the understanding went. I named them Categories," &c.

Kant, in fact, again and again tells us that his one great exploit was the establishment of pure sense on the one hand, and of pure understanding on the other. That, name it as we may, and watch it pass into what infinite proportions or disproportions it may, in effect, *was* his exploit; and aught else—even his admirable *Ethic* (which is, *substantially*, the best thing he has done)—may, with less or more justice, be regarded as only a side-piece or a consequent. In brief, this is Kant's *constitutive act*. And it has by all experts been so regarded. Bouterwek, for example (*Kant: Ein Denkmal*, p. 40), characterises the theory of the "pure perceptions" and the conjoined theory of the "pure understanding" as "the two parts of Kant's work on which the entire system rests" (see further, pp. 76, 80, 82, &c.). And it was precisely by these two parts, and more especially by the latter of them, the Deduction of the Categories, that the *Wissenschaftslehre* of Fichte, the *Transcendentaler Idealismus* of Schelling, and the *Logik* of Hegel were enabled to find materials and ground for themselves.

And, now, of this constitutive act, what is the conviction that has grown upon us? *The gloves he has spent his life upon will not fit!* The single purpose they are there for, what they are alone to do, is to give necessity; and this necessity, which they alone are to give, which they alone are to explain, *already exists!* Glance once again at reciprocity and causality. The one is a necessary *to* and *fro;* the other only a necessary *fro*. The latter is absolutely different from, or even opposed to, the former. The units that fit into causality must already possess the same nexus, the same necessity as causality. The *fro* of sense must be exactly analogous, parallel, correspondent, to the *fro* of the

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understanding. Else how should the understanding know its own? Even before the category can move, act, stir, then, the nexus of the units of sense must be cognised and recognised as already necessary. Nor is it different with reciprocity. If a reciprocity is in itself a *to* and *fro* of necessity, it can only take unto itself a necessary *to* and *fro* from sense. A *rule* is found in a *case* as already part and parcel of it; did any one ever hear of a rule *making* its own cases? By what *is* a case a *case?* Is it not by containing the rule, by showing the rule, by exemplifying the rule? Is an example of the White not already white, then, an example of the Black not already black? Shall the prudent man not have prudence, nor the brave man bravery? Neither rule, nor subsumption under rule, can *make* case. Apply that to causality now. The sense-series that fits causality is already causal; there is already *in* it the nexus of antecedent and consequent which it is the sole purpose of the category of Kant to give. The category gives no necessity, it only receives it; it is only at last and in effect—what it has always been—a general naming of particulars in experience.

A similar glance at the Schematism discovers there, also, the complete futility and gratuitousness of the *manufacture.* It is utterly impossible for the categories to have any such intromissions with time as is assumed for them. Pure *function* shall have pure *affection* to act on; pure *form* shall have pure *matter;* pure *intellect* pure *sense.* That sounds well; but how absurd the whole imagination is, shows glaring at once, if we but ask, where is the *modus* in time that is to typify antecedent and consequent, and where also and *simultaneously* in time is there a *modus* that is to typify the progress and regress at once of reciprocity: there are no such *modi.* Time is only an indifferent onward of indifferent moments, the one only indifferently after the other. How are categories to find in that indifferent monotony types of series so opposed to one another and to *it,* as a second *in consequence of* a first (in causality), and a second in consequence of a first simultaneously with a first that is also in consequence of a second (in reciprocity)? The one *after* the other of time is not the one *through* the other of causality, and neither is it the all through each and each through all of reciprocity. "Analogies" are the derivative titles in these references; things, as one sees, may be in series, but utterly without *analogy.*

But what of the Categories themselves? I know not that any German has objected to them more than defect, as

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derived, in number and in fact, from mere school-logic. That apart, Kant has imposed on every one of his successors, Fichte, Schelling, Hegel. Although Fichte, in his pet, called Kant "only a three-quarters head" because he (Kant) declined to acknowledge his work, he still believed that work to be no more than "ächter durchgeführter Kriticismus," genuine completed Kantianism. Schelling exclaims of Kant, "He outlived his worst opponents, and the fire of those who have gone beyond him has only served to separate the gold of his philosophy from the admixtures of the time, and exhibit it in pure lustre". Hegel, for his part, decides, "In the principle of the Deduction of the Categories, this philosophy is true idealism, and it is this principle which Fichte has pointed to in a purer and stricter form, and has named the *spirit* of the philosophy of Kant". As it is with these, the leaders of the movement, so it is with all the others led. The very cry of the hour is, Fichte and Schelling are dead, and Hegel, if not clotted nonsense, is unintelligible; let us go back to Kant. See, too, in other countries, what a difference the want of Kant has made! It is so that Haym will have England "to move on quite other paths and make quite other *stadia*" than Germany! But this just means that there is in England no Hans Breitman to "solve the infinite"! It is simply Kant's "jargon" that Germany speaks; and England as yet has failed to understand it. In fact, as the reader may see, it is *now* the question is put, Is it worth understanding? Kant himself is well worth understanding, both in himself and in his writings. Few worthier men have ever lived than Kant, and few writers have said as much sound sense as he on the most important interests of humanity. Neither should I be slow to acknowledge that from his speculations have sprung most of the philosophical considerations that are of value at present. The blunder itself, if it is a blunder, has been the source, perhaps, of the most prodigious truth. Still, that is the question, Is not all that vast framework of the *Kritik* but artificial and factitious, the product of a mere external and mechanical manufactory? Has not its very vastness but concealed the essential flaw that lay in the *constitutive act itself* that was the spore or germ of vitality to the whole?

What I have to object to the categories, leaving out of view the ordinary reproaches about school-logic and meagreness, I can only *mention* now. *Quantity* comes first. Now all, positively *all*, that this category has to teach us is, the *notions*, One, Some, All, and the *axiom*, All perceptions are

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extensive magnitudes. Must then the schoolboy, with his marbles and his slate, and all the benches, desks, walls, and what not around him, have, in addition to his ordinary sense and ordinary understanding, a peculiar cell, before he can say or see, there is One, there are Some, there are All, and Everything is long or short, and thick or thin, and broad or narrow? Nay, can any one see how such a special cell were required even to throw necessity? The manifold of sense, even as it is given to sense, *is* a manifold. It can be counted. What call is there for an express, a pure, separate, independent cell for that? Even were there one, it would give no necessity. How could it? The necessity is already there.

But if Quantity is idle, much more idle is *Quality*. *All* that this transcendental invention is to do for us, is to tell us that, besides such ideas as Reality, Negation, Limitation, there is also such a thing as Degree. There is really nothing more. Under this vast head there is not a single particle of information further. And, surely, to have *sensation* gives that; sensation, in fact, just is degree, sound is degree, light is degree, feeling is degree, taste degree, smell degree! Or could the category ever give the degree without the feeling? Without a certain special brain-cell, we should not know that there is Nothing, that there is Something, that there are Something and Another, and that the one is hotter, colder, or what not, than the other. Is it not amusing to observe the good Kant's positive wonder at, his almost childish delight in, this, as an actual *à priori* "Anticipation" of *à posteriori* experience on the part of pure science, divine philosophy at last? Or are we to say we forget the apodictic necessity? A special cell in the mind to give the apodictic necessity of degree!

Substance and Accident. It is inconceivable how anything within me could convert this sensation and that other sensation, the one into substance and the other into accident, unless, even as sensations, they already exhibited such mutual relations. *Reciprocity* and *Causality* we may pass now.

Then as for the categories of *Modality*, what can be more superfluous, futile and absurd than they are—in the function put upon them? There must not only be a separate and exclusive brain-cell to enable me to recognise *Possibility*, but even another—another separate and exclusive brain-cell—to enable me to be aware of *Actuality* itself! One wonders, in such circumstances, what—to leave out sight, sound, touch, taste—our very smell can be good for! Nay, after all the

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necessity that is in the other categories—and they are all there expressly *for* necessity—this thing necessity is so very important that it must be actually doubled, there must be an express category just called *Necessity*, which can have, and actually has, no other function than simply to recognise and bring home to us the necessity of all the other necessities! And we have just seen that, even to Kant himself, what the whole huge thing was invented for,—the provision of necessity, namely, for the subjective judgment, for sense,—sense and the subjective judgment already possess!

Surely this vast thing—this laborious and immeasurable congeries of infinite spring and innumerable wheel—is, *for what it is intended*, a vast fiasco!

But we must draw all this to a head now as regards our single interest—the answer to Hume. And here it is to be acknowledged, first, as on the part of Kant, and in favour of Hume, that that is right,—what is said of our being indebted to experience alone for the knowledge of any individual *case* of causality. We cannot know a case but from the fact of its being experienced by us. Gunpowder explodes, the loadstone attracts; these and other such examples we may remember from Hume. We may remember too, the warming stone, drifting ship, indented cushion, &c., of Kant, from whom, however, we quote now this: "That the sunshine, which illuminates wax, also melts it, whilst it hardens clay, no understanding, through notions which we previously had of these things, can divine, much less formally infer, and only experience can make known to us such a law" (ii. 591). These facts of gunpowder, loadstone, wax, clay, &c., are all *cases*, and not one of them could we know beforehand. It is experience tells the child that the flame will burn his finger. How otherwise than by experience can I know that a bit of ice will set a bit of potassium on fire, or that butter will clear the tar-spot from my hand? The two terms are really, in the first instance, alien the one to the other. Ice and potassium, butter and tar: these are *diferents:* the one does not lie in the other; no examination of either, whether before or after, will explain the event. Hume and Kant are perfectly agreed so far. To both causality would seem to be, as it were, an artificial, or forcible, or, at all events, unaccountable synthesis of aliens. Precisely here, however, it is that the difference between the two emerges. Hume, absorbed by the experience, denies any understanding of the necessity; and can, consequently, fall back for explanation only on instinct naturally or habit philoso-

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phically. Kant, again, absorbed by the necessity, denies experience, customary, habitual, instinctive or other, as its origin at all, and for explanation, can only recur to understanding.

Now, so far, both Hume and Kant have right on their side. Hume's position that any *case* is only known by experience is inexpugnable; and equally inexpugnable is the position of Kant, that the experience is inadequate to the necessity. That, then, is what is denied for Hume, that experience can *account for* an apodictic synthetic necessity. As for Kant, whom we see brought back to understanding for the source, what we deny for him is that this necessity, still left dark by Hume's ordinary *à posteriori*, is made one whit clearer by the extraordinary *à priori* which, for result of his inquiry, he has sunk into the understanding. The vast transcendental machinery is a signal failure! As we have seen abundantly, according to Kant, the necessity in any causal proposition is explained by the reception of the empirical facts into a certain *schema à priori* generated in the pure perceptive form, Time, by the action on it of the pure notion of the understanding that answers to the logical relation of antecedent and consequent. The empirical facts, in the first place, are taken for granted to be only feelings within us, not external entities independent of us or of any faculty of us; they are, so to speak, but subjective bubbles of the mind. Time itself is that. Only it is general or universal—a one all-embracing spectrum on to which all individual things, images, are thrown. That is one moiety of the solution of Kant, *à priori* sense. The other moiety, as we have seen, is *à priori* intellect. It is the union of these two that shall be Kant's solution. The *à priori* form of intellect, antecedent and consequent, acting on the *à priori* form of sense, time, there results an *à priori* shape, pattern, *regula* of necessary nexus, *through* which alone, *and necessarily assuming its form*, the subjective units (bubbles) of any particular causal case can be presented for the recognition of self-consciousness. It is as received into this *à priori* mould, matrix, formula, or paradigm, then, that the units of sense take on necessity.

In the direct and special answer of Kant to Hume, the completeness of which, according to the former, would have astonished the latter!—in this express answer, which I have above fairly illustrated from the *Prolegomena*—the participation of the *schema* in the process does not appear. Kant prefers there to confine himself to the category. Still he elsewhere refers, by express number of page, to the *schema*;

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and we are not warranted either to attribute its exclusion to any doubts of it on Kant's part, or to exclude it ourselves. In fact, as is obvious, it is an indispensable element of intelligence; at the same time it might very well have occurred to Kant to keep it out of sight for the nonce, *when it was causality was concerned!*

We have now, then, the whole of Kant's answer before us. Is it sufficient?

We may say, in the first place, that it is untrue that objects are mere subjective results still within us. That is the πρῶτον ψεῦδος, but for his implicit belief in which Kant would never have thought of his scheme at all. To that scheme it is the very first step. Unless the *à posteriori* is to be assumed as wholly and solely subjective, and to meet and mix with an *à priori* that is even specially subjective—each absolutely and equally in the single *punctum* of self-consciousness—unless this be assumed, there is no ground, no possibility whatever, for the idea at all. The whole invention must at a word vanish.

But let us even grant this, and not the less for that is the rest of the scheme baseless and inapplicable. It is unnecessary to repeat now; it is sufficient to allude. Even grant time to be, like the other items of sense, no objective reality without, but a subjective form within, it can exhibit—offer—to the category of antecedent and consequent no correspondent *modus* for the construction of the indispensable *schema*. Lastly, grant the *schema*—say that the category has acted on an *à priori* time to production of the *schema*—say even that things are but subjective bubbles and have been received into the *schema*, there is still this: The subjective bubbles, the sensations, bring their own necessity, and must bring their own necessity, even for the *schema* to apply. The category receives necessity, and must receive necessity, even if it gives it.

There is nothing left Kant but his objection to Hume of the apodictic necessity of the general proposition. For that is certain. In every example of causality, there lies the virtue of the general proposition that every change must have a cause. But if it be so with Kant, his position is no more and no better than that of Reid, Beattie, Oswald, and all the rest who referred to an implanted first principle; no more and no better than, as we saw, was the position of Schelling; nay, Kant's position in the end is no more and no better than that of Hume himself *when he referred to instinct*. And Kant was blind to all this! The plaything, after such long years, and with such infinite toil, he had

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made for himself, was so beautiful that he could see nought else. An *à priori* sense, all the functions of an *à priori* understanding discovered—enumerated even with warrant of completeness—metaphysic, pure science, philosophy at last! These balks, and beams, and cylinders, and wheels, —even in their uncouthness,—imposed upon all the world. Had they been but offered in ordinary French to Frenchmen, or in ordinary English to Englishmen—had they been but offered so and to such *as a reply to Hume*, they would have been seen in their nakedness, I doubt not; and the *Kritik of Pure Reason*, instead of being the world's wonder, instead of making the greatest philosophical reputation since the birth of Christ, would have been smiled aside as even a superfluity of failure, as, in pure truth, nothing whatever but the usual simplicity of German superfetation.

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IV.—ANOTHER VIEW OF GREEN'S LAST WORK.

By Professor H. CALDERWOOD.

THREE notices of Green's last work having already appeared in MIND, an introductory word seems needful by way of explanation of a fourth. Professor Caird's notice in No. XXXII. took the form of an exposition rather than a criticism, and naturally introduced the work to philosophic readers. The article by Mr. A. J. Balfour in No. XXXIII. took the form of a criticism of Green's "Metaphysics of Knowledge," a criticism with which, in a large measure, I agree. But Green's work is more properly a treatise on Ethics, and needs to be critically examined from the ethical standpoint. Professor H. Sidgwick discussed the book in No. XXXIV. from the position of the Utilitarian School. As Green's book is admitted to be one of high ability, and of marked significance as illustrating one of the popular phases of thought in our day, I venture to submit another view of it, from the standpoint diametrically opposite to the Utilitarian,—the standpoint of the Scottish Philosophy, in close relation with the transcendental scheme of Kant, while opposed to the scheme of Hegel and to the thought which has been at once a development of the Hegelian scheme and actively antagonistic to Kant.

The *Prolegomena to Ethics*, though left unfinished, is in all respects worthy of the reputation of the author, and will make his name conspicuous on the roll of those who have devoted themselves to moral science. Besides its own inherent merits, several considerations lend additional importance to its appearance at this juncture. Green was the recognised leader of the Hegelian School as represented at Oxford, closely allied with Professor Edward Caird of Glasgow and other well-known and able adherents. He had besides gained the admiration of a band of younger men attracted by the thought of Hegel, as appeared by the publication last year of the volume entitled *Essays in Philosophical Criticism*, dedicated to the memory of Green. In the list of authors contributing to this volume of Essays are some of the most distinguished of recent graduates in Edinburgh University, bearing honours in philosophy, including the names of A. Seth, R. B. Haldane, and W. R. Sorley, the two first-named being the editors of the

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volume. Additional reason for interest is found in the fact that it was generally known that Green had devoted himself to the problem, how Hegelian thought is to be reconciled with the scientific claims of the age, and especially with the theory of the Evolution of being. All these things combine to add interest to the work.

Deliberate study of the book, whatever the standpoint of the reader, must result in high commendation of it, as a work of unquestionable ability and great philosophic value. The judgments pronounced on the conclusions reached will differ greatly; but the representatives of all the schools of thought among us will agree that its discussions must command general attention. In accordance with this view, Professor H. Sidgwick, in his article, describes it as "a highly interesting and impressive book," "about which our ethical discussion is likely for some time to turn".

The course of the argument commonly followed in the *Prolegomena* is largely determined by the attempt to meet the requirements of the prevailing conception of Evolution, in its scientific aspect. For a Hegelian, who rejects dualism, maintains the unity of all existence and interprets all as the Evolution of the Idea, the task of encountering and satisfying the scientific conception of Evolution is inevitable. And, at first sight, there appears much to encourage the attempt; for if, according to his theory, all existence may be represented as an evolution from nothing, through matter and spirit, up to the Absolute, it would seem natural and easy to absorb into such a scheme all that scientific men are now recording as to evolution of organic existence. Indeed, it would seem as if science had been unwittingly preparing an auxiliary demonstration ready to the hand of the Hegelian. The scientific man would probably disclaim a share in the responsibilities of such a transcendental scheme as that of Hegel, for he would allege inability to pronounce either as to the source of organic existence, or as to the probable end of the course of progression in the midst of which we find ourselves. But, if anything be characteristic of Hegel it is the claim to a scheme which is all-inclusive; accordingly, responsibility devolves on all his followers to meet intellectual requirements, in sight of the scientific advance of our times. This it is that Green has braced himself to attempt, and that with full sense of the intellectual difficulties of the task, when it is contemplated from the standpoint of Ethical Philosophy.

Our author no sooner breaks ground in the Introduction

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than he emphasises the difference between scientific and philosophic thought. But the difference is not antagonism: rather, the later is the product of the earlier; the scientific is constantly raising intellectual demands which it does not satisfy, and it is thus continually pressing us upward to higher and more speculative thought. If the scientific man incline to make a jest of metaphysical inquiry, that is his affair; but, all the same, his own investigations lead up to it. If he drop off at the frontier, and, with a joke, bid us good-bye, it still remains that we should ask whether the short journey with which he is contented can meet the requirements, or whether he has not himself raised the questions which he treats so lightly. We may still have to ask whether it is possible for thought to end as he would end it. And, more particularly from the standpoint of Moral Philosophy, we must ask how it comes that human life is determined by moral conditions inapplicable to lower orders of being. A science which claims Evolution as one of its prominent features has its own crop of difficulties, which cannot merely be turned over on to a neighbour's ground; and which must nevertheless concern a neighbour who is involved by contiguity. For we cannot refer to Darwin with his discussion of Moral Sense, and J. S. Mill with his *Utilitarianism*, and Dr. Bain with his *Emotions and Will*, and Mr. Herbert Spencer with his *Data of Ethics*, without seeing that an Evolution-theory has found it needful to try to account for the common recognition of moral distinctions among men. Accordingly Green naturally says that "the evolutionists of our day claim to have given a wholly new character to ethical inquiries" (6). He, therefore, proceeds to ask whether moral sentiment and action can be "explained on the principles of natural science". Green's standpoint, whence may be seen the wide field of discussion opening to the view, is found in the following statement: "It is obvious that to a being who is simply a result of natural forces, an injunction to conform to their laws is unmeaning" (9). Moral obligation, or the conception of personal duty, becomes the test of the sufficiency of any theory of the order of existence. A theory of Evolution may modify considerably the aspect of several of the problems raised, but it cannot displace or alter the demand for an explanation of the well-known fact that the life of man involves an acknowledgment of moral distinctions. When, therefore, a theory of organic Evolution and a theory of morals meet each other, they present such a contrast as to raise a fresh problem of great difficulty

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and vast importance. An injunction to conform to law cannot apply to a being who is simply a result of natural forces; whence then is man, and what view of the universe is implied in his nature and life?

Dealing with this problem, Green finds it needful to consider the "metaphysics of knowledge". This is an essential preliminary, but it must be treated with brevity here, in order to allow for examination of the main subject. For him, a true theory of our knowledge involves a true theory of the universe, and thus the discussion is kept in close relation with all the freshest thought as to material existence. This, however, also keeps constantly in view the distinction between Nature and Mind; between natural forces and mental activity. These two are distinct, so essentially and radically distinct, that the one cannot be the product of the other. "The knowledge of nature cannot be a part or product of nature, in that sense of nature in which it is an object of knowledge" (11). Knowledge is not a function of any of the nature-forces; nerve-sensibility is a condition of organic experience, depending on "an affection of the sentient organism by matter external to it" (65); but it presents only a stream of experience, in which phenomena come and go. Perception implies "the action of a subject which thinks of its feelings, which distinguishes them from itself, and can thus present them to itself as facts" (66). Consciousness or thought is thus found to be *the unifying power*,—or unifying principle of the whole system of things (38)—"the principle of unity" giving us "a connected system called the world of experience" (15). This is what Green denominates the "spiritual principle in knowledge and in nature," and which must afford the key to our theory of the universe. It therefore follows that "man, in respect of the function called knowledge, is not merely a child of nature" (11); for "there is a sense in which man is related to nature as its author, as well as one in which he is related to it as its child" (15). While we are dependent on Nature for our sensations, we are dependent on the inherent power of thought for the conception we have of the world as "a system of related elements" (19). With all this, I fully and unreservedly agree, reckoning the position unassailable from the materialistic side, and fundamental to Philosophy.

More reserve must, however, be maintained as to Green's subsequent positions. These are developed from that expressed in the statement that thought, or the "spiritual principle," is in a sense the *author* of nature, and they constitute the distinctively Hegelian features in the discussion.

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From the position that consciousness or thought is the unifying power, Green attempts to overleap the difficulties connected with a self-conscious personality, in each man, so as to reach the unification of existence. He seeks "to arrive at some conclusion in regard to the relation between man and nature, a conclusion which must be arrived at before we can be sure that any theory of ethics, in the distinctive sense of the term, is other than wasted labour" (54). He has up to this point been clear and decided in insisting upon "a self-distinguishing consciousness" as essential for explanation of the system of things; can he now escape from this self-distinguishing characteristic of "the spiritual principle," so as logically to maintain the unification of existence? He objects with reason to our speaking of "mere feeling" or "mere thought" otherwise than abstractly, for it is only in "the self-distinguishing consciousness" that these exist. But it remains true that the "feeling," and the "thought" also, differ greatly in different persons. Insisting that "feeling" and "thought" are not mere abstractions, lands us in the affirmation of the separateness of persons. Green, therefore, must thus far admit that it is impossible to bring the diversity of human life to unity, however true it is that thought is the unifying power in nature. He says: "That great part of our sensitive life is not determined by *our* thought, that the sensitive life of innumerable beings is wholly undetermined by any thought of theirs or in them, is not in dispute; but this proves nothing as to what that sensitive life really is in nature or in the cosmos of possible experience. It has no place in nature, except as determined by the relations which can only exist for a thinking consciousness" (53). But this offers no escape from the perplexity. For, if we say "that great part of our sensitive life is not determined by *our* thought," do we not say that it is different from our thought, in a sense independent of our thought, and it may be in some sense alien to it? Such a statement is in harmony with the facts of moral life, involving us in conflict, in order that the rational may have ascendancy. But when it is added that "this proves nothing as to what that sensitive life is in *nature*," the investigation is being involved in confusion. The experience belonging to the sensitive life is known to the self-distinguishing consciousness; the sensitive life is known as other facts in nature are known; it belongs to our organism, and is subject to the laws of organic existence. When it is said that this proves nothing as to what the sensitive life is *in nature*, "nature" is used in two senses, one which includes,

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and another which excludes, a great part of our sensitive being. In this way our foothold becomes unsteady, and our philosophic progress uncertain. The attempt to escape this confusion proves futile. To say that our sensitive life "has no place in nature except as determined by relations which can only exist for a thinking consciousness" is a truism, which helps nothing. Our sensitive life has no place in nature except as related with our self-distinguishing consciousness; but it is "not determined by our thought," it is distinct, and in a quite clear sense separate and even alien. Nor is any help found in the still wider reference, which is next added, in these words: "For the consciousness which constitutes reality, and makes the world, it (the sensitive life) exists, not in that separateness which belongs to an attribute of beings that think only at times, or not at all, but as conditioned by a whole which thought in turn conditions". We are in agreement with this passage so far as to grant that the Divine existence, with the relation of all things to God, "constitutes reality, and makes the world"; and that neither our sensitive life nor our self-distinguishing consciousness, neither animal organism nor inanimate being, exists in separateness. Nevertheless, it remains true —and Green affirms it to be true—that there is "separateness" of the sensitive life from the self-distinguishing consciousness of the spiritual principle. All being said that can be said concerning the cosmos and the eternal spiritual principle which "makes the world," the separateness of the sensitive life and the self-distinguishing life in man remains. Man does not originate his sensitive experience any more than his sensitive experience originates his thought. It has been the fashion with Hegelians to disparage Psychology, and the system meets the penalty here. There is no escape from the duplex-aspect of existence: dualism asserts itself; and Hegelianism is unable to support its claims as a theory of existence.

We pass next to consider Green's leading positions under the "metaphysics of moral action". Here we naturally find a further contrast between man and nature, first indicated under "the freedom of man as intelligence," and more fully disclosed under a doctrine of the "freedom of the will". The object here is to show that man is "not a part of nature,"—not a link in the chain of antecedent and consequent characteristic of Nature. Green's position is that, as man is self-distinguishing consciousness, his activity must take the form of self-realisation; or "the agent must act absolutely from itself". This is "the freedom of man as

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intelligence". With this position I agree, if only some modification be allowed on the suggested absoluteness; and this Green must be held to allow, after what has been said of our sensitive experience. Man as intelligence, and as acting under the guidance of his intelligence, acts as from himself, and not as an atom or element in nature. He is reasonably judged and treated as the originator of his own activity. His activity, in so far as it is intelligent, and not merely impulsive,—in so far as it is intelligence and impulse together and in harmony,—is self-realisation. "In virtue of his character as knowing, man is a free cause" (79). What this statement involves will appear, if we take it *negatively* as well as positively. He is free from the dominion of mechanical law,—he is not ruled as nature is; positively, he is free in the action of intelligence, that is, intelligence becomes the source of activity. In this sense it is true that man is free cause, just in as much as, and in so far as, his intelligence determines his activity. According to the essence of his nature, he is free intelligence. This, however, is not what we mean by moral freedom, it is only a preliminary condition of it,—a phase or element of it, in so far as knowledge is involved in the conception of moral action.

Before passing, however, to freedom of will, we must consider how the view of man's freedom as intelligence bears on man's relation to nature and to God. To say of man as an intelligent agent that he must act absolutely from himself, involves as we have seen the separateness of man from nature. When, escaping from the region of mechanical forces, we turn round to survey all from the standpoint of intelligence by which the unification of the manifold phenomena becomes possible—the only standpoint which the self-distinguishing consciousness can warrantably occupy, we may even say, can possibly occupy—we see how transcendently great Mind is. But here also we see in what modified sense we can speak of mind as the *author of nature*. While mind makes the whole of knowledge, it knows itself as distinct from the forces of nature; and accordingly knows nature as distinct from itself. The whole knowledge is from the mind, and for the mind; but the mind which knows is not the author of nature, any more than it is the author of its own being. The theory of unification of existence, which it is the object of Hegelianism to maintain, is manifestly giving way and going to pieces as we advance.

When next we pass to the relation of the self-distinguishing consciousness to the Absolute Intelligence, the promise of success is no better. Unification with that Intelligence

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which is above us, is no more possible than unification with Nature which is beneath. Green, however, proceeds to treat the self-realisation implied in intelligent action as equivalent to the "reproduction in it, through processes empirically conditioned, of an eternal consciousness, not existing in time, but the condition of there being an order in time" (79). Now, the *reproduction* of an *eternal consciousness* is contradictory,—the two elements of the conception cannot cohere; and the inconsistency is increased, as we contemplate a reproduction as manifold and frequent as there are centres of self-distinguishing consciousness. From every standpoint which can be taken, we are baffled in our search for coherence of thought. There is a sense in which we rightly contemplate our mind as existence *not in time*, for succession applies only to its states, not to itself, and in this sense we may say that the self-distinguishing consciousness is "eternal," or independent of time. But this does not imply identification of the active self-distinguishing consciousness of man with that mind in which all the order of nature originates. Nor can we in any intelligible sense maintain that the Absolute Intelligence reproduces itself; for nothing is more clear, or more readily granted by an Hegelian, than that there can be no double,—no manifold,—but only one eternal unchangeable unity. / That every intelligent being has a nature in harmony with the Eternal Spirit, which no lower being can have; and that human intelligence is in a definite sense a manifestation of the Great Intelligence,—are positions natural, and even essentially involved in the interpretation of our own intelligence. But an attempt to maintain the unification of all intelligence is an attempt to make imperfection an expression of perfection; or, in another aspect, to involve the Absolute in a struggle to express itself through imperfect media. We may, indeed, maintain, and to be rational we must maintain, that "the highest reality is the ground of the possibility of all things"; but we cannot from that deduce a reproduction of itself in forms and modes which belong to the imperfect. The Hegelian school has done good service to philosophy in vindicating the essential, commanding and central position of intelligence in nature, in human society, and in the system of all things; but Hegelianism has failed to make good "the unification of the manifold," on a "theory of the action of a free or self-conditioned and eternal mind in man" (88).

We come now to the Ethical test, as connected with Green's account of *freedom of will* in man, and *obligation* to

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do the right. This portion of the subject he has treated with great ability, and most careful management of detail, along with acute critical handling of the Utilitarian scheme of morals. After what has been said, it will be understood that Green's attempt must be regarded by me as a hopeless one, however able in its execution. It seems as impossible under a theory of the unification of all things to reach a doctrine of moral obligation, as I agree with Green in thinking it is impossible under a Utilitarian theory. A philosophy which accounts for all things by "the action of a free or self-conditioned and eternal mind," has by its own structure created a difficulty in the way of shaping a theory of personal obligation; for an injunction to conform to law seems as unmeaning in a nature which is the "reproduction of an eternal consciousness," as in a "being who is simply a result of natural forces".

After being engaged with a theory of the unification of all things, Nature, Spirit and God, it appears an unexpected descent to begin to speak of the difficulties, uncertainties and conflicts of human life. It seemed as if all these had lost themselves in the Eternal, whereas the old problem as to duty remains a puzzle, while the achievements of men are found to be dependent on the struggle of each self-distinguishing consciousness.

In dealing with this part of his subject, Green says it is "the consciousness of wanted objects which yields in the most elementary form the conception of something which *should be*" (90). This is a concession the reverse of helpful, for in an ethical sense it may easily result that the thing desired is that which "*should not be*". But I pass at once to the discussion as to Motive. Green's position is "that the world of practice is one in which motives are the determining causes" (92); and Motive is defined as "an idea of an end which a self-conscious subject presents to itself, and which it strives and tends to realise" (93). This distinguishes admirably between blind impulse and motive in a rational being; and at the same time Green insists with cogency on the unity in consciousness of the impulse and the idea. Before motive is formed in a rational being, impulse, even if it be blind animal impulse, is united with an idea of the end to be attained. This part of the discussion must be valued very highly. But it does not help towards the recognition of moral distinctions. It clearly indicates the essential characteristic of rational activity, including all such activity; but it does nothing towards elucidating the special characteristics of *moral* action. Suc-

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cess here depends on the succeeding positions, and these are the following:—"The motive in every imputable act for which the agent is conscious on reflection that he is answerable, is a desire for personal good in some form or other" (96). "By a moral action, an action morally imputable or that can be called good or bad, we mean one that *is* so determined as the instinctive action is not" (96). "It is not by the outward form that we know what moral action is. We know it on the inner side. We know what it is in relation to us, the agents; what it is as our expression" (97). "Self-reflection is the only possible method of learning what is the inner man or mind that our action expresses" (98). "The moral quality of the act, its virtue or its vice, depends on the character of the agent" (99). "It only arises from the particular mode in which the self-representing and self-seeking Ego in him reacts upon circumstances" (101). And by this we mean "a certain reproduction of itself on the part of the eternal self-conscious subject of the world" (102). All moral action thus presupposes a "personal self-seeking agency"; it is an attempt after self-realisation; and the morally good is the realising of the better self within us. "In all conduct to which moral predicates are applicable a man is an object to himself"; he is seeking to realise himself; and the end of all such activity is to perfect himself, or to realise the ideal of his being.

Such are the leading positions of Green. It is impossible within the limits to do justice to the untiring care and philosophic breadth with which the argument is worked out. I can only briefly indicate in a general way the grounds on which the argument is incomplete or incompetent. There must, I think, be general agreement as to these positions: that in all rational life an idea of a contemplated end is essential to motive; that the value of moral conduct is according to development of character; and that it is the law of moral life or progress to seek the perfection of character. But while all these are granted, they are insufficient as a theory of moral life. Their inadequacy may appear from the following considerations. 1. In the definition of motive as an idea of an end which a self-conscious being presents to itself and tends and strives to attain, there is no discovery of that which constitutes the moral quality in motive: moral distinctions are untouched. Accordingly, Green tends to identify the moral action with the wider category of intelligent action. Thus, he speaks of a "moral or distinctively human action" (96), as if these two things

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were the same; and proceeds to treat of "our knowledge of what moral or motived action is" (96). 2. To maintain that "the motive in every imputable act is a desire for *personal good* in some form or other" (96) is to give an inadequate view of moral good, is to confound self-realising with self-seeking, and is to reduce morality to self-interest. Green has exposed himself to the criticism which he has successfully launched against Utilitarianism. 3. If men do act from a motive other than regard to their own good, and if this is held to be essential to morality,—self-development or self-realisation cannot afford the test or standard of the morally right; it points to the end of action in some cases, rather than to the rule of action in all cases. 4. Even if self-realisation, or action in accordance with our better nature, be taken as the characteristic of morally good action, it presupposes some test of the right in action, other than our nature, superior to our present character, authoritative in itself and intelligible to our reason, without which there can be no personal obligation. Without this, we are destitute of a theory of moral distinctions and personal duty. This is the inevitable result of failing to distinguish between the intellectual and the moral characteristics of motives. In this the inadequacy of the analysis appears which would account for all by reference to intelligent recognition of an end and the striving or tending to realise it. Here, as in a theory of biological evolution, we are left without a theory of the "injunction to conform to law" (9).

A few closing sentences must suffice for an expression of opinion on the theory, as a whole, which maintains the unification of all things. Insuperable difficulties are found in the structure of the theory, and these are made conspicuous by the clearness and force of reasoning at different stages. The success of the argument to prove that man is "not a part of nature," that he is not a link in the chain of antecedent and consequent characteristic of nature, involves failure in the proof of the unification of existence. So also is the failure apparent when we regard things from the higher side. To find in human life "a certain reproduction of itself on the part of the eternal self-conscious subject of the world," is inconsistent with the distinctness of the self-conscious, self-realising personality of man, involving all the struggle and conflict of moral progress; farther, the attempted identification of "the eternal self-conscious subject of the world" with the self-consciousness in human life accounts for an inadequate representation of personal obligation,

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leaving the ethical theory incomplete, as failing to account for essential characteristics of moral law and of moral life.

In perusal of this exceedingly valuable contribution to philosophic literature, from a prominent upholder of the Hegelian school of thought, it strikes one as singular that the name of Hegel is not once mentioned from the first page to the last. Kant is commended and criticised; all the representatives of the Utilitarian school have frequent attention bestowed on them; but Hegel's name is conspicuous only by its absence. We cannot readily suggest an explanation of this circumstance. It seems, however, to imply that even in the judgment of his greatest admirers, the name of Hegel is now relegated to an historical position, and that it is the duty of his followers to seek some advance on the work of their master. We mark with satisfaction many important signs of this advance. One of them is found in the structure of this book. The thought of Hegel is expounded and supported with the sincerity of profound conviction, but Hegel's method is not pushed into prominence,—we are not constantly occupied with the shifting of logical formulæ, we are not perpetually hearing of thesis and antithesis and synthesis. Of the master it has been said:[1] "Open where we may in Hegel, we find him always engaged in saying pretty well the same thing"; but it is not so with Green. He is content to dispense with the formulæ, if he can advance the thought. The iteration of form in Hegel is so constant, that "one suspects this dialectic,—distrusts it".[2] We are glad to find one of the highest Hegelian authorities in our land—I mean Dr. Hutchison Stirling—granting this, and adding these words: "This dialectic, it appears to me, has led to much that is equivocal in Hegel, and in others, and may become a pest yet".[3] With this utterance I thoroughly agree, while I think that there is much promise for the future of philosophy in the unreserved acknowledgment of it. Evidence of the gain is apparent in this work of Green, in which a singularly able attempt is made to meet the living thought of the day in so far as it is seeking to express itself in the form of biological evolution, and is doing this without apprehending how many are the difficulties in the way of satisfying the demands of our intelligence when concerning itself with the requirements of moral life.

[1] Schwegler's *History of Philosophy*—Annotations by J. H. Stirling, 430.
[2] *Ib.*, 443. [3] *Ib.*, 445.

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V.—ETHICAL ALTERNATIVES.

By J. T. Punnett.

The reasoning employed in this paper depends in an important degree for its validity on the truth of the hypothesis that the interest of the social aggregate is opposed to the interest of its individual members. We must, therefore, concern ourselves at the outset with a preliminary investigation of the antagonism thus assumed. Interest we may define indifferently from a subjective or from an objective point of view—either as desire, or as what desire aims at. It will best suit our purpose, however, to define it as those objects of desire which are so far realisable as to be made the object of conscious endeavour. If it be objected that society is an abstraction, and that, consequently, desire can only be predicated of it by a figure of speech, it is a sufficient answer that the reservations necessarily implied in the statement are too obvious to admit of any confusion or misunderstanding. *Ex vi termini*, every organised community must have arrived at some articulate declaration of common aims and needs, no insignificant share of its corporate energy from the first moment of conscious political life having been expended on the task of constraining individuals to co-operate for the good of all. When, therefore, the interest of the unit is said to be at variance with the interest of the aggregate, the terms of the proposition are not open to challenge on the score of indefiniteness or ambiguity. It will, of course, be understood that the objects of desire to the individual are spoken of as the *resultant* direction in which his conduct moves, it being undeniably true that, however antisocial this net result of the individual's desires may be, he must have at least some desires which happen to coincide with the objects aimed at by the society as a whole. And here a further question suggests itself. Is the interest of the aggregate different from any result which could be arrived at by a summation of these eclectic social interests of the individuals that compose it? In order to answer this question, we should have to inquire how far it is true that society is a living organism, and is endued (in something more than a metaphorical sense) with a corporate life. Inasmuch, however, as the meaning which we attach to the term 'interest' is quite free from all metaphysical implications in regard to society, the burden of this unpromising investigation is in no sense laid upon us. It will satisfy all reasonable demands on us if we set on one side what the individual is supposed to desire, and over against it what all the other individuals would approximately unite in desiring for the whole of which they are parts.

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Now, to affirm the existence of an opposition between the objects which the individual desires for himself and those which (in the sense above indicated) the aggregate desires for itself, is obviously only another way of stating that the society dealt with is imperfectly developed. Of the completely adjusted citizen of a completely evolved society, no desires can be predicated the gratification of which would be attended with any abatement of the corporate welfare. For him, the antagonism will have reached a vanishing point; or, as Mr. Herbert Spencer puts it, moral conduct will have become natural conduct. But, in proportion as the evolution is incomplete, must the antagonism survive. It is furthermore evident that, in dealing with this question, we have good grounds for confining our view more or less exclusively to individual communities. So to limit our premisses may, indeed, at first sight appear inconsistent with the generality which ought to characterise any proposition that is made the basis of ethical discussion. But this objection is manifestly at variance with fact. For, like the physical organisation with which it is correlated, the power of response to ethical claims which resides in any given society must necessarily have been the slow outcome of its special history and conditions. Any illustrations, therefore, which for the purposes of our argument may be drawn from the experience of an individual community are entitled *pro hac vice* to the same logical force and validity as if they had been supplied from a general conspectus of human nature.

Far back in the dim dawn of philosophic thought, the antagonism which we have been discussing looms out in grim relief as the terror and despair of the ethical theorist. The author of the *Works and Days*, the first didactic writer amongst the Greeks, seems also to have been the first utilitarian philosopher. Grote says of him that prudence and probity are his means, practical comfort and happiness his end. True, therefore, to the utilitarian conception of motive, Hesiod does his best to convince himself and his hearers that the virtues which he inculcates will have their reward. But his optimism is not always equal to the burden of this task. At times, his faith reels under the shocks of a cruel experience; and, when the sea of social turmoil on which his frail ethical bark is to be launched rises vividly before him, this despairing and most pathetic ejaculation is wrung from his lips—

> *νῦν δὴ ἐγὼ μήτ' αὐτὸς ἐν ἀνθρώποισι δίκαιος*
> *εἴην, μήτ' ἐμὸς υἱός· ἐπεὶ κάκον ἔστι δίκαιον*
> *ἔμμεναι, εἰ μείζω γε δίκην ἀδικώτερος ἕξει·*
> *ἀλλὰ τόδ' οὔπω ἔολπα τελεῖν Διὰ τερπικέραυνον.*

Here we see that the interest of the aggregate cannot even hold up its head against the all-absorbing interest of the individual. All hope of even effecting a compromise between them has to be adjourned to a happier age. But how stands the matter when

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we carry our gaze onward to the social attributes of the age and the community in which we live? The modern optimist will have us believe that the five-and-twenty centuries which have since run their course have landed us in a millennium of remunerative sociality. If Hesiod found to his sorrow that it did not pay to be just, the citizen of the nineteenth century has been trained to penmanship on the motto that honesty is the best policy. But, is the present state of things really so favourable as it is made to look by this contrast? Of course, no one will deny that nearly three centuries of social evolution have done something towards establishing a *modus vivendi* between these hostile interests. Granting, however, that the antagonism has been in a measure disguised and transformed, we can in no sense boast that it has been got rid of. Modern experience shows us that there is a process of legalised asphyxia almost as fatal to the vigour of the social sentiment in us as was the assault and battery of a ruder age. If that be not so, how comes it that the rearguard of our civilisation does not stand abreast even of downright savagery in all that makes life worth living? On this point, one of the most sober scientific observers of our time has put on record an opinion, to which the peculiarly representative position of its author lends a kind of monumental validity. Having weighed the alternatives with all earnest deliberation, Professor Huxley tells us that he had rather be born a Bushman than take upon him the intolerable life-burden of our modern Helot. To hew wood and draw water for the heirs of all the ages is a worse destiny than to start afresh at the very threshold of social evolution. And that, too, in the very heart and focus of civilisation—in that which boasts itself to be the foremost city in the world. Put this solemn deliverance of contemporary authority side by side with Hesiod's lament, and it is obvious at a glance that, from the point of view from which we are now regarding them, they both tell the same tale. This difference there certainly is—that injustice has become legalised and that violence has become unprofitable. But to the toiling masses of to-day law-abiding industry has scarcely a better or surer reward to offer than it had in the troubled times that are mirrored in Hesiod's song. The situation, however, of these almost irresponsible victims, who have paid with their toil and their tears for such progress as we have achieved, is mainly significant as the outcome of the comparatively free agency of those more fortunate citizens whose lives are not spent in hourly hand-grip with starvation. He who runs may here read in characters sufficiently impressive how widely divergent is the welfare of the community as a whole from the success even of its average members. That truth, moreover, receives further illustration when we come to look more directly at what characterises the representative elements of our society. The age we live in is before everything else an industrial one: and, if we wish to discover by their effects the principles

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which govern average individual conduct, it is in commercial and industrial phenomena that we may expect to come upon the track of them. Now the special and characteristic function of industrialism is to produce and distribute wealth. But wealth is pre-eminently a social product. In a more pregnant sense than of any other source of happiness to the individual, we may say of it that, alike in its pursuit and its fruition, it is conditioned and bestowed by society. Here, then, if anywhere, we might expect to find a deep and operative sense of social responsibility—an abiding and grateful perception of the circumambiency of the social life, and of the countless ways in which the individual life is embraced and enriched by it. Such are the expectations which theory justifies: but what are the facts? How is wealth pursued, how is it used, how is it distributed? It would be ungracious to ignore the brilliant exceptions which serve to prove the rule. But, looking at things in the lump, it is surely a sad and sober truth that, in this England of the nineteenth century, the pursuit and the use of wealth are as utterly antisocial as is the distribution of it. We have already alluded to the standard of well-being that prevails amongst our urban poor. Over these repulsive facts modern social arrangements have contrived to throw a decent veil. Whereas Dives in the parable has to run the gauntlet of Lazarus and his sores every time he goes in and out of his palace-door, his antitype of to-day enjoys an entire immunity from this salutary but irksome protest. Lazarus and his unsavoury belongings having been consigned to the convenient obscurity of the slums, our industrial champion can the better harden his heart for the greedy and pitiless scramble out of which success has to be clutched. But a genuine success once achieved is found to possess an indefinite power of superfetation, if only the lesson of undeviating devotion to self-interest that has been learned in the getting of it be well remembered. This condition rigorously complied with, the very law of gravitation takes the lucky survivor under its patronage. Opportunity and the profits of opportunity come to him as by an irresistible proclivity. Thus our industrial army marches along, its van led proudly by the omnipotent millionaire, and the helpless lack-all plodding wearily in the rear.

So much for individual and social interest as antagonistically displayed in the realm of fact. We will now proceed to deal with the relation of that antagonism to ethical theory. That the fact, if it be a fact, lies at the root of motive in Ethics, is sufficiently obvious. If the objects of desire to the individual do not include the social objects for which his allegiance is claimed, either the adequate impulse towards the latter must remain wanting, or you must go in search of it outside the domain of purely experiential philosophy. From the horns of this dilemma there is no escape: the ethical legislator can but take his choice. He must make shift as best he can without the motive: or he must pay a price

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for it which may well give him pause. The latter investment may, indeed, be made under the sanction of many systems of Ethics with which the world has become familiar. If it cannot be denied that individual and social interests are phenomenally antagonistic, it may be thought possible to effect a formal reconciliation between them by recourse to the noumenal and permanent individual, who, having his roots out of Time, is one with all other individuals and with the essence of Being itself. This unifying doctrine of reconcilement is the key-note of Hindoo philosophy, and, under various guises, has done yeoman's service in modern German Transcendentalism. Christian Theism, again, has a way of its own out of the difficulty which here confronts the moralist. If we are all children of a common Father, owing our existence to his creative power, mystically reunited to his essence by the Incarnation of Deity itself, and co-heirs *in posse* of an immortal happiness, it is a necessary corollary that we are members one of another, and that our only rational course is to comport ourselves accordingly. What appears to be a new edition of this venerable ontological expedient has lately been given to the world under the sponsorship of an eminent man of science. In his inaugural address to the French Academy, M. Pasteur points to the influence on our minds of the conception of the Infinite as the source of all our ideas of equality, brotherhood and liberty. In view of that concept, all finite existences are equal. Now, waiving the question of whether this is a necessary or an arbitrary relation of ideas, it is clear that, in order to make it serviceable as a motive, the axiomatic 'ought' must be capable of doing duty for the ethical 'ought,' or rather of changing places with it. The desire to be rational must be translatable into the desire to be moral. Towards such an identification some approach is, perhaps, conceivable, as the cumulative effect on the scope and quality of our emotions of the severe logic of the laboratory long exercised under the chastening presence of ubiquitous law. But, at present, it certainly is not near enough to claim a place amongst the conditions of our problem. With due deference to the enthusiasm which this quasi-transcendental element of scientific inquiry has evidently kindled in M. Pasteur, there is little risk in saying that it lacks touch of the emotions of which average human nature is susceptible, and, therefore, for all purposes of ethical persuasiveness, may be left out of our account.

Metaphysical expedients of this kind may, undoubtedly, be still appealed to amongst certain communities, and in certain strata of thought. But it is an obviously hopeless task to render them available for the required purpose in any of the systems which represent the characteristically English experientialism of our time. With a saving clause in favour of the Hegelianism advocated and expounded by the late Professor Green, the ontological affirmations involved in all such postulates have been set aside by common consent as either unproved or unprovable. At the same

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time, a careful scrutiny of current phases of thought reveals the existence of a widely-spread expectation that, past failures notwithstanding, the requisite theoretic proof will some day or other be forthcoming. And the belief naturally leads to the acceptance of an ethical interregnum, as an inevitable prelude to the advent of the philosophical Messiah, whose high privilege it will be to establish an organic unity between the new gospel of autonomy and the superseded dispensation of heteronomy. What we would say of this hope is that the need which inspires it is evidently being provided for in quite another way. The ethical problem with which we have to deal is finding its solution elsewhere. *Solvitur ambulando.* Surely, however slowly, the progress of events is giving an answer to it. Civilisation has been felicitously described as the organisation of motive: but we may go further, and say that it is the organisation of *social* motive. Whether that process can ever reach its full development through the operation of those economic laws to whose agency we have hitherto unreservedly entrusted it, is one of the burning questions of the hour. Looking, however, at the vividness and potency of the social ideals that are so rapidly taking shape amongst us, we may well feel ourselves justified in the belief that some machinery will be found which is capable of giving energetic effect to them. At the same time, we have to admit that the conscious intellectual assimilation of ethical teaching is not likely to play more than a very subordinate part in the process. The lingering atrophy which evolution has in store for all anti-social desires will evidently come about in chief measure as the result of unconscious habit, directed by education and training into altruistic channels.

We are now prepared to inquire how English Utilitarianism comports itself towards the central fact which has hitherto engaged our attention. There are, it seems, two ways in which the injunctional part of that system can be set forth. One method is to ignore altogether the antagonism which we have been examining, and to treat the question of 'Why?' as an impertinent irrelevancy. Man, according to this view (which is also, by the by, that adopted by the expounders of the Positive Philosophy), is a social animal; and, as such, will-he, nill-he, must act socially. He can no more act anti-socially than a stone can suspend itself in the air. Of course, if this be true, *cadit quæstio:* we must surrender at discretion. If, however, the alleged facts upon which we have been commenting are real facts, we need not deal much at length with a theory of society which does not cover them. All that it is necessary to say about it is this—that it rests on a confusion of two things which are wholly distinct. A sense there certainly is in which we must all act socially. Fortune, says Shakespeare, brings in some boats that are not steered. Of the pressure of the social environment we may also say that it brings into the haven of sociality many a boat that has no ethical helmsman. In that sense, we all of us build better than we know; and

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the conscious stone of society grows to such beauty as it can attain to, through our agency, and yet often in spite of our conscious efforts. But these unconscious contributors to social well-being do not come within the purview of Ethics at all, except in the character of proselytes *in posse*.

The other method of stating the Utilitarian position is pitched in a more modest key. It fully recognises that conflict between individual and social interests which places the great majority of mankind beyond the reach of an effective appeal. According to this view, the ethical *crème de la crème* of society will need no answer to the question 'Why?'—or rather, they will never put it. To him who wants a motive other than his own spontaneous impulse, the Utilitarian we are now speaking of will answer the question 'Why?' in some such fashion as this: 'If you are the man you ought to be, you will find your greatest happiness in the course proposed to you. If you are not, I am very sorry for you.' This is what J. S. Mill says of the morality which he was endeavouring to establish: "It would derive its power in the superior natures from sympathy and benevolence, and the passion for an ideal excellence: in the inferior from the same motives cultivated up to the measure of their capacity, with the superadded force of shame". That statement it is not necessary to challenge, except in regard to the comparative efficacy of the Utilitarian appeal—a point with which we shall have to deal later on.

In this system, what we are taught to aim at is the greatest happiness of the greatest number. When Mill was asked whether the animal kingdom was to be included in the definition, he appears to have answered unhesitatingly that it covered all sentient existence. How far the happiness of our unborn successors is to be taken account of, though a point of vital and transcendant importance, is one on which Utilitarians have not arrived at any satisfactory agreement. But, whatever be the area to which the system is applicable, happiness is its undisguised end and aim. To this Happiness-principle, the only rival in modern Ethics which does not avowedly rest on an intuitional basis, is one which owes its birth to the philosophy of evolution. We use the word 'avowedly,' because all systems of Ethics, other than pure Egoistic Eudæmonism (Utilitarianism itself not excepted), however loudly they may boast their experiential origin, are certainly open to the charge of involving an intuitional implication. This rival is often characterised—we should rather say caricatured—as the Complexity-principle. Complexity is, indeed, an apparently indispensable condition of what is aimed at: but it is no more the thing aimed at than contact with leather is aimed at in putting on a shoe. What the Progress-principle makes its aim and end, is not complexity, but the highest and choicest fruits of complexity—the harmonious unfolding of all the latent capacities of man. In other words, it seeks increase for the individual and for the society of the aggregate of thought, feeling

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and action, this increase displaying itself in multiplicity, and being conditioned on complexity. The basis of the principle cannot be better set forth than in the words of Haeckel: "The highest function of the human mind is fully developed consciousness, and the moral activity that arises from it". For the individual, this aim does not differ very widely from the self-fulfilment of Emerson, from the more life and fuller of Tennyson, from the life of greater length and breadth of Mr. Spencer, nor from that overflow of sympathy from the smaller to the larger aggregate, which is, perhaps, a more practical aspect of the principle than any other. Nor does it differ, the Utilitarian will say, from happiness. In its ultimate analysis that may be so. It does not concern us to deny it. So long as it presents itself to the mind under a totally different guise from the Happiness-principle, we hope to show very good reason why it should not be identified with it. It possesses an altogether superior efficacy as an instrument of ethical injunction, and it owes that superiority to its cosmic affiliation—to the fact that it is necessarily regarded as the best and latest birth of a world in travail.

Now we wish to put the claims of this principle very modestly. We shall not pretend in regard to it that it is any better able than the Happiness-principle to get behind or to outflank the conflict between egoistic and social interests. The *Deus ex machina* of a transcendental datum apart, all systems of ethics are very much in the same boat. Be they utilitarian, or be they evolutionary, all our ethical arrows are too lightly timbered for so loud a wind of self-preserving impulse as the struggle for existence now raises round us. What we do claim for the Progress-principle is that it admits of more consistent application, and that it is capable of summoning more potent auxiliaries to its aid. We have already noticed Mill's striking reference to the passion for an ideal excellence. This flame, if we can only set it aglow, will clearly be the most powerful generator of ethical momentum that we can get hold of. To fan it into life and vigour must be the work of the imagination. The question is, what ideas are most germane to that task: and that is not a question which can be settled off-hand by *à priori* logic. Psychology does not furnish us with any scale by which ideas can be graduated according to the degrees of fascination which they respectively possess. In order to test their quality in that respect, we must fall back upon the rough and ready evidence of empirical facts. Now, of what idea can we say that it has cast a mightier spell on the human mind than any other which has dominated it for centuries? Surely, it is the conception of a Cosmic Evolution. No fact of our time is more amazing than the triumph of this idea. Whether we look at the tiny germ of scientific fact from which it first sprang, at the electric speed with which the irresistible wave of conviction has been swept round the civilised world, or at the passionate hopefulness with which its recon-

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structive energy has been utilised in every department of action and of thought, the profound affinity of the conception to the mind of man can hardly be disputed. Nor need we be at much pains to show how naturally the emotion engendered by it finds vent and utters itself in practical loyalty to Progress as here defined. In so far as emotion is generated by the idea of a cosmic evolution of which the spiritual nature of man is the highest product yet reached, and in so far as that emotion has a resultant in conduct, in that precise degree will the emotion correspond in its results to the passion for an ideal excellence. In no other direction can the impulse spend itself on a subject-matter that is strictly cognate to the conception which has given it birth. To be inspired by the thought of an evolution which has entered upon its spiritual phase, and to conspire with it, is to feel the passion for an ideal excellence in its highest form. The notion, moreover, of an evolution, which, having pursued its stately march for untold ages, now challenges man, as the latest birth of Time, to bear his part in it, covers all that is covered by the notion of an ideal excellence, and a good deal more besides. Such, then, is the idea which we find on the field, dominating, so to speak, an enormous area of emotional sensibility. In addition to its unique serviceableness as a generator of ethical momentum, we seem entitled to say of it that it bears the stamp of irreversible perpetuity. Whatever modifications the future may have in store for it, either in the direction of amplification or curtailment, the central principle of the doctrine is as firmly rooted in the facts of nature as the law of gravitation itself. The services of this ally we wish to secure; and, if we would do so, we must obviously bring our ethical system into line with the channel of energy which issues from it. The Progress-principle, as we have seen, does this, following Emerson's advice, and yoking its ethical waggon to the star. The range of feelings here appealed to being essentially imaginative, we cannot do better than take a description of them from the lips of the only poet whom the evolutionary idea has yet inspired to song:

> From stars in the solemn sky,
> From the tender flower at my feet,
> Certain, and grave, and sweet,
> Comes the same eternal reply:
> Upward! O child of man; for progress doth never die.
>
> Then lend thy will and thy song
> To the thing that must surely be:
> For, so shall thy life be free,
> And so shall thy speech be strong;
> And so thy will be one with the law that beckons the worlds along.

Here we must expect the Utilitarian to urge that the passion for an ideal excellence is itself decomposable into happiness. Possibly so; but it does not affect our argument if it is. In order to draw effectively upon the store-house of ready-made energy

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which we have pointed out as available, the idea employed must bear an *obvious and direct* relation to the conception by which the emotion has been engendered. But this condition the Happiness-principle cannot fulfil, by reason of the fact that its connexion with that concept—call it ideal excellence or call it spiritual evolution, as you will—has admittedly to be established by a roundabout process of analytical logic.

We have claimed that the Progress-principle, as above defined, admits of more consistent application than the Happiness-principle. This we will proceed to illustrate by a very typical example—the question of personal liberty. It is an illustration all the more full of significance, because Utilitarians are fond of pointing to Mill's treatment of the subject as a model of the method in which mediate principles, suitable for application to practical needs, ought to be deduced from the fundamental principle of their philosophy. No one who has ever tried to solve an urgent problem of public or private morals by the aid of the Greatest-Happiness-principle in its present stage of development, can have failed to realise what a cumbrous, rickety and blundering instrument it is when brought to bear on particulars. This is often freely admitted by thoroughgoing Utilitarians. But they deprecate criticism on the ground of the obvious incompleteness of the system, and appeal to Mill's achievement in the matter of Liberty as an earnest of the practicality and definiteness which may be imparted to it, when the whole range of politics has been comprehended in a series of derivative and mediate principles established in the same way. Now, if there is any one thing which has been established by Mill's argument in that behalf, it is the difficulty of setting up a claim for personal liberty on purely utilitarian grounds. Though happiness is his plea throughout, progress is always, by implication, the thing aimed at. In the chapter on the "Elements of Well-being" this is particularly obvious. Writing in earnest deprecation of the pernicious influence of routine on the mind and character, Mill says, "Where not the person's own character but the traditions or customs of other people are the rule of conduct, there is wanting one of the principal ingredients of human happiness". But, happiness for whom? For J. S. Mill and his peers, undoubtedly! But, for the people whom he is exhorting, surely no! *Their* greatest happiness—and they constitute the vast majority of mankind—is repetition and imitation—to do and think to-day what they have done and thought yesterday, or, better still, what they have been taught to do and think by a social superior. How, otherwise, can the universal and contagious tyranny of fashion be accounted for? Undoubtedly, if we are authorised to aim at the happiness of a future generation, and to leave the happiness of the present out of account, Mill's implied injunction may be acted on. The lover of routine may then be legitimately subjected to the vicarious pains and penalties of an enforced psycho-

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logical development. We may bring the battery of progress to bear upon his nerveless frame, without pity for the shudders and spasms that result from its application—and that, not at all on the plea that the net happiness of the patient will be other than diminished, the span of human life being mostly too short to admit of the conversion of a slave of routine into an appreciative organ of spontaneity. But, if Utilitarianism is true to itself, how can it sanction a setting aside of present happiness to the extent which is here necessary? That step can only be consistently taken under the shelter of the Progress-principle, the advocate of which is not hampered by the need of showing that he has a potential majority on his side. The inconsistency here pointed out is, indeed, a truly amiable weakness on the part of Utilitarians: for it is the only way of rescuing their system from stagnation. If consistently applied, Utilitarianism seems irrevocably committed to a stereotyped and unprogressive ideal. The constitution of this system, be it remembered, is essentially democratic. Not only does it seek its sanction in a count of heads, but it constitutes every man, in so far as he has ever tasted happiness, a judge of happiness. Happiness being an attribute of feeling which is essentially personal and incommunicable, no one is really competent to prescribe for another the means whereby it is to be realised. The answer to that question can only be found in the nervous organisation of the particular individual concerned. This being so, it is obviously no easy matter to apply the Utilitarian principle to details, even when the conditions under which the assumed maximum of happiness is to be realised are known or ascertainable. For the above reasons, there must always be an imminent risk that the estimated forecast will not correspond with the facts. The judgment of one man in regard to the happiness of others being incompetent *ab initio*, it is by a summation of these incompetencies that an average competency is endeavoured to be arrived at. But this difficulty is fatally magnified when unborn generations are brought into the Utilitarian horizon. Here, *everything* is conjectural—not only the capacity of certain conditions to confer a maximum of happiness upon organisms which are at least available for experiment and observation, but at once the nature of the conditions and the sensitive attributes of those who are to be affected by them. Surely, the Utilitarianism which attempts to compass this task cannot have taken a sober measure of its resources. Had it done so, it would have contented itself with giving effect to such conceptions of happiness as may chance to have currency here and now. Such a limitation of the scope of Utilitarian effort might have been acquiesced in by Bentham; but to one charged to the finger-ends with high aspiration as was J. S. Mill, it could never have been supportable. He accordingly gets rid of it by setting up a sort of paternal despotism in the very heart of the Utilitarian democracy. The worshipper of routine comes up to

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the polling-booth to exercise his franchise like the rest of us. 'Stop!'—we can imagine Mill saying to him—'where is your qualification? What do you know about happiness? Do you call it happiness to spend your life in aping the cut of your neighbour's coat, or the fashion of your neighbour's upholstery? Look at me! You do not see me the sport of such ignoble captivations. My own happiness being so obviously higher in degree than yours, I expect you to take my word for it that you are on the wrong track.' 'But,' rejoins the other, 'I should have thought that was a point on which the testimony of my own experience should have been final and unanswerable.' 'Not exactly so,' says Mill, 'though your misunderstanding of the matter is not without excuse. The Utilitarian franchise is an occupation-one in theory, but has come to be educational in practice: and how can you start with less than the three R's? Even of these beggarly elements you seem, unfortunately, to know nothing; and, for the benefit of society, you must go to school and learn them. When you can show me that you have arrived at some rational notions about happiness and its conditions, we will discuss the matter again.' So, our automatic neophyte goes away sorrowful: for he too fancies that he has possessions, and, moreover, has a shrewd suspicion that he is asked to surrender them for a very remote and conjectural equivalent.

But, we shall be asked, are there no people in the world who know as little about progress as the applicant we have been considering is supposed to know about happiness? Undoubtedly: nor would it affect our argument if we admitted that this kind of ignorance is more profound and widespread than the other. But there is this difference. The advocate of the Progress-principle has his hands perfectly free to deal with it. He is likely enough to be met by the statement—'I know nothing about progress as you define it. I have never had any experience of it myself, and have no conception of what it means for others.' If so, he is ready with an answer which, however inadequate, is at least consistent—'If you know nothing about progress, then listen to those who do'. In the one case, a progressive ideal is purchased at the cost of an inconsistency that is fatal to the cohesion of the whole system. In the other, it is the incorporated essence of the system itself.

But, to return to the question of Liberty. When the advocate of the Progress-principle is asked why he wants personal liberty, he answers with the poet—

> As far as may be, to carve out
> Free space for every human doubt,
> That the whole mind may orb about.

To progress in this sense, personal liberty is the one effective minister, the one indispensable condition. But does personal liberty conduce to the greatest happiness of the greatest number?

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Is the defiance of current prejudice, the rejection of popular beliefs, the best way of realising the Utilitarian aim? There is always a time at which every new thought is in a minority of one. To bring round the majority to a hospitable entertainment of the unwelcome stranger is often a task which it takes generations to accomplish. In exact proportion to the revolutionariness, and, therefore, the potential importance of a new thought, is the pain of domesticating it amongst old ideas. So that, throughout the whole career of a victorious idea, from the first moment of its self-assertion down to its final triumph, you have a process of strife which is essentially hostile to happiness. It means pain to the heretic, pain of a different kind to the orthodox, pain to the converts, and equal pain to those who successfully resist conversion. For the future, truth may bring peace; but for the present, it brings mostly a sword. And, under strictly Utilitarian sanction, that sword can never be drawn. This is a specimen of the difficulties that crop up in the application of the Utilitarian principle at every turn. They are the inevitable result of taking as the standard of right and wrong in conduct a thing about which no two persons are agreed.

We will now proceed to deal very briefly with a few further disabilities of the Happiness-principle. To have the happiness of others ever present to one's mind, to set up as the goal of human effort the wiping away of all tears from all eyes, is, doubtless, to be inspired by an ennobling and regenerating ideal. But we must not forget the heavy odds against which that ideal has to contend. First and foremost, we have not yet emerged from a deeply organised conviction of the beneficence of tears. The Divine worship of sorrow, as Carlyle calls it, may have had its day, and a rational *cultus* of happiness may be its residuary legatee. But to discard an idea theoretically is one thing; to cancel the energy which it has stored up in our nerves and tissues is quite another. What Utilitarian ethics appeals to is the power that is in man to appreciate and respond to the Happiness-idea. And, in exact proportion as that idea is confronted in the human mind by this august competitor, dignified and exalted by the exercise of an age-long authority, will the Utilitarian appeal fail to evoke response. There is, moreover, another circumstance which powerfully tends to weaken the influence of the Happiness-idea on our emotions. Every man has to learn from his own experience that the idea, so far as it applies to himself alone, needs perpetual mutilation, circumscription and repression. By nothing is his moving equilibrium more surely or more fatally imperilled than by giving the reins to his imagination in that direction.

> Entbehren sollst du ! sollst entbehren !
> Das ist der ewige Gesang,
> Der jedem an die Ohren klingt,
> Den, unser ganzes Leben lang,
> Uns heiser jede Stunde singt.

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So it is that, at the outset—starting as every man must, from his own experience—the Happiness-idea imbibes an aroma of suspicion and mistrust, which clings to it more or less consciously throughout. To reply that there is no logical antagonism between parsimony in regard to your own happiness and the utmost bounty of imaginative sympathy in regard to the happiness of others, is not to touch the case at all. For it is not by the conscious processes of reflective logic that the Happiness-idea is thus enfeebled and discredited. It is by the unconscious but inexorable operation of the law of mental contiguity. Now, from the necessary abatements of efficacy to which the Happiness-idea is thus exposed, the Progress-idea, as we have endeavoured to set it forth, is almost wholly exempt. As potent, indeed, as manifold are the emotional sensibilities with which the latter idea claims kinship, but with which the Happiness-idea has no direct affinity, and which, therefore, cannot play a part ancillary to its reception and fructification in the minds of those appealed to. To stow away these sentiments into their proper pigeon-holes in the Utilitarian psychology may be an easy task. But, when they have to be marshalled into battle-array at the blast of the ethical trumpet, the feebleness of the appeal at once discloses itself. Let, however, but the fitting chord be struck by a master-hand—by one capable of sounding the gamut of human emotion from its lowest note to the top of its compass—and we realise, as by an electric shock, how deep lie these sentiments in the very *penetralia* of our being, and at the same time how far aloof they stand from contiguity with Utilitarian susceptibilities. Having carried her heroine through the great drama of *μετάνοια*, by which she was to be numbered among the twice-born, George Eliot sums up its effects in these thrilling words: "Romola had lost her belief in the happiness she once thirsted for. It was now a hateful, smiling, soft-handed thing, with a narrow, selfish heart." Listen again to this other chord, of different note but of equal resonance, and also of equal remoteness from eudæmonistic associations, which has been set vibrating by Emerson—

> Profounder, profounder man's spirit must dive:
> To his aye-rolling orbit no goal will arrive.
> The Lethe of Nature can't trance him again,
> Whose soul sees the perfect his eyes seek in vain.

To those who criticise these remarks from an unsympathetic standpoint, the power of fascination which we have ascribed to the Progress-idea will, doubtless, savour strongly of fanaticism. How is it possible, they will ask, that rational minds should be transported with enthusiasm about the railroad, and never trouble themselves at all about the terminus? But, if it be irrational to delight in the "glory of motion" for its own sake, nothing, at any rate, can be more human. Nothing can be more true to psychological fact. For, no sooner is any course of action

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adopted and systematically pursued as a *means*, than the human mind begins straightway to convert it into an *end*. So far, therefore, from being abnormal, the substitution of the railroad for the terminus is one of the most familiar of mental facts, the emotions being necessarily enlisted in behalf of what is actually in hand, and the intellectual processes slowly following suit. Were it necessary, moreover, it would not be difficult to find *a priori* justification for the fact which we have treated from an empirical standpoint. Man has come out of Nature. Every organ of his frame is eloquent of the story of his past. Why, then, need we wonder that the mental rehearsal of his painful emergence into that reflective consciousness which looks before and after, should cast such a mighty spell upon him? Surely, it may well be that his nerves are haunted by muffled memories of his upward march, and that these sub-conscious factors contribute to swell the emotion with which he surveys a material evolution struggling to think and feel through him. Not, indeed, with exultation, but with an ever-deepening sense of awe and responsibility, may he say of the past, "Quorum pars magna fui," and of the future, "It is mine alone".

To sum up our position briefly—we advocate Progress as an ethical end, and as a standard of right and wrong in conduct; though nothing that we have said is inconsistent with the hypothesis that the unconscious motive power in all conduct is the desire to seek pleasure and avoid pain.

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VI.—CRITICAL NOTICES.

Logic, in Three Books, of Thought, of Investigation and of Knowledge. By HERMANN LOTZE. English Translation, edited by BERNARD BOSANQUET, M.A., Fellow of University College, Oxford. Oxford: Clarendon Press, 1884. Pp. xxiii., 538.

The translation of the volumes in which Lotze, towards the close of his long career as thinker and teacher, began to arrange in systematic form the ripest fruits of his reflection, is a contribution of the highest value to English philosophical literature. The *Logic* and the *Metaphysic*—the untimely death of the author has deprived us of his work on Practical Philosophy—contain a treatment of the main speculative problems distinguished by acuteness, breadth of knowledge, critical caution and profound sense of the deep importance of the questions discussed. The historical position of the author gives to these volumes a unique interest. For Lotze might fairly have been described as the one remaining link of connexion between the great epoch of systematic speculation in Germany and the more recent age of detailed, scientific research. The character of his mind reflected his historical position. No thinker of any time has more thoroughly combined the speculative instinct of the constructive philosopher with the cautious, practical attitude of the trained scientific investigator. If it be the ideal of the philosopher to work into a harmonious conception those thoughts which are the deepest, most far reaching, most characteristic of his age, it would be hard to point to any one who has realised the ideal more thoroughly than Lotze.

Lotze's very excellences as a thinker, however, have their consequent defects. His training had given him a profound distrust of constructive metaphysics, a distrust so strong as to be sometimes, if not unintelligent, at least unjust. Yet he is animated by the true speculative impulse, and through the panoply of his cautious reserve the reader of his earlier works could obtain partial glimpses of a comprehensive, well-knit metaphysical idea. The excessive caution of the writer rendered it hard to form any complete notion of his deepest views, and the several parts of his work had, therefore, all the obscurity that belongs to the isolated fragments of an imperfectly known whole. Even in these latest volumes, in which the manner is more scholastic, more regularly expository than was Lotze's wont, something of the same obscurity is to be detected. The various assumptions, distinctions, views, through which the exposition proceeds, wait for justification from the completed whole; even his metaphysic is not fairly before us, since we still want his treatment of the philosophy of religion.

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The close interdependence of the several parts of Lotze's work is certainly in no sense an objection to them. On the contrary, Lotze's writing has no more valuable lesson to give the student of philosophy than to teach him the impossibility of abstracting and isolating within its magic sphere. But the continuous feeling of interdependence renders the exposition difficult, and in the *Logic* these difficulties seem to me of a very peculiar and instructive kind.

Before proceeding to give some account of what Lotze embodies under the old title of Logic, I may be allowed to express to the Translators and Editor of the volume the feelings of gratitude and respect for their labour which I feel assured all students of Logic in this country will share with me. The volume ought to do much for the study of Logic in England, and the translation, if not positively attractive as a piece of English, will at all events not repel or unduly baffle a reader. Lotze's style is never easy to reproduce; it always has considerable force and eloquence, while in his latest work it is unusually compressed and full of meaning. An elegant version in English could not be forced within the bounds of the original, and the present translation, which, so far as I can judge, is extremely faithful and accurate, suffers only from the inevitable evil of compression. The Translators—for the task has been co-operative—have done their work with great ability, and the Editor is to be congratulated on the wonderfully uniform style which the whole presents. I have not examined the whole translation minutely, but a selection of certain chapters yielded so small a number of weaknesses, and these of so unimportant a kind as to confirm the general impression derived from inspection of the whole. The rendering of technical terms has also been very successfully achieved, though due uniformity is not always maintained. The rendering "conception and association" for "Fassung und Verknüpfung" (p. 406) is somewhat misleading.

The *Logic*, as the title specifically indicates, falls into three Books or sections. The First of these, Pure Logic, or Thought, is a systematic exposition of the forms in which the logical activity of mind proceeds. The Second, Applied Logic, or Investigation, is a much less systematic treatment of the various ways in which the confused, entangled mass of concrete experience is brought into conformity to the ideal forms of logical connexion. The Third, Methodology, or Knowledge, is a free discussion of the fundamental problem which emerges from the exposition of the logical activity of mind, the problem of the foundation of knowledge, of the relation between the forms of connexion making up the logical ideal and the nature of the real to which experience points. In all three Books the reader will find not merely much that will throw light upon logical difficulties, much that will suggest problems of a subtle and profound character, much that may correct hastily adopted theories,

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but also, to put it generally, a quantity of philosophic thinking so elevated in tone, so sagacious in procedure, as to afford mental exercise of the most improving kind. There is no logician who will not learn much from Lotze's work. On the multitude of interesting detailed questions that appear throughout the volume I do not purpose to say anything, and in particular, I must here omit all that concerns the treatment of the commonly called Inductive Logic in the Second Book. The general point of view from which the methods of research are regarded seems to me most excellent; indeed, the only point from which they can be consistently and with profit regarded. And I merely call attention to the weighty and well-expressed note in which Lotze gives his opinion on the logical calculus. With regard to the whole Second Book, however, one must take the advice Lotze offers in his preface, "to regard it as an open market, where the reader may simply pass by the goods he does not want". It is more critical than systematic, and the treatment strengthens the opinion, which one might defend on general grounds, that the methods of scientific investigation and proof are not capable of being thrown into a rigidly coherent and logical form.

The main interest of the work is to be found in the general idea of the logical activity of thought which inspires the whole, and out of which the characteristics of the familiar logical forms are developed. It is by no means easy to give a complete account of this general idea, and Lotze has himself preferred to allow its features to become apparent in and through the details of the exposition. He deliberately declines to formulate his view as an introduction, either in the way of describing and assigning its exact position to the logical act or in the equivalent way of discussing the place Logic is to hold in a systematic scheme of philosophy. It is of service for the reader of the present work to consult the earlier treatment of Logic which the author put forward under the more immediate influence of the philosophical tendencies of the last generation, and which in essentials is reproduced in the first book of his later treatise. In the introduction to the small but richly suggestive *Logic* of 1843, Lotze discussed two main conceptions of Logic, those of Herbart and Hegel, by comparison with which he was enabled to define the two main features of his own doctrine, features which reappear, though less explicitly put forward, in the later work. On the one hand, while sharing with Herbart the view that the logical forms are to be assigned to the activity of thought, an activity of one specific mode of mental existence, he dissents from the conclusion which Herbart drew, that these logical forms had no validity or significance other than that which belonged to them as specially complicated expressions of the psychological mechanism. From psychology, from the natural history of the mental life, no light, he held, could be thrown on that which is the very essence of the activity of thought.

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The same dissent led him to reject the purely formal functions which by Herbart were assigned to the logical connexions of ideas. It would do injustice to the meaning of the notion, the judgment, the syllogism, if these were regarded simply as ways in which consistent ideas were put together, or inconsistent ideas held asunder. When we reflect over the real content of the several acts of conceiving, judging, reasoning, we cannot resist the conclusion that their significance is not exhausted by the mere statement of the mechanical conditions under which psychical facts combine or oppose one another. The unique objective reference which is essential to thought is not explicable in the terms appropriate to the natural history of ideas.

On the other hand, Lotze as strongly dissented from the Hegelian conception of Logic, in which it appeard to him an arbitrary and indefensible identification of thought and reality was the mother-error. Thinking and reality are in essence distinct; however close may be their relations to one another, and however the two may stand as parts of the sum total of being, they are not rashly and as a first step to be identified. The conception of a Logic which should be at once an exhibition of the ways in which thought proceeds and of the essential forms of reality seemed to him confused and misleading. Thought after all is reconstructive in character; as he puts it in his later work, "the human mind does not stand at the centre of things but has a modest position somewhere in the extreme ramifications of reality". The formation of knowledge is a gradual process, and it would be absurd to suppose that there is even a precise correspondence, much less a substantial identity, between the tentative effects of thinking and the modes of real existence.

As in contrast to these opposed conceptions of Logic, Lotze contemplates the middle course which at once recognises the essentially *subjective* or *formal* character of the activity of thought, and at the same time gives full justice to the claim which thought at all events makes for itself, to be in close relation with reality. "Logic is certainly formal in the sense that it is a theory of the operations of thinking through which the subject works its thought into knowledge; it is as certainly not formal in the sense that these forms of thought are mere psychical facts standing in no express relation to the problem of knowing the real. Logic is certainly not real, in the sense that its forms are elements of the essence of things, but it is real, in so far as these forms depend on elements of the essence of things, in that there lie in the nature of things motives which constrain the thinking spirit to take in the movement of its own thought exactly those forms of apprehending and conjoining objective fact" (*Logik*, 1843, p. 13). In the introduction to the present work, a shorter course is taken to define provisionally the scope of Logic, and the needful explanations appear only in the course of the detailed expositions. Thought as a specific function of

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the thinking spirit, operating on the material supplied in and through the mere mechanism of the soul, is taken to be a *means* to knowing. As *means* or instrument, it unites characteristics of its own and of that which stands as its correlate, the real to be known. It needs hardly to be said that even a provisional statement, the import of which is so grave, demands the most careful scrutiny. In terms it reads like much that one has been accustomed to meet in the ordinary text-books; the significance which Lotze attaches to it can only be understood when the whole of his work is taken into account, and it is possible that a critic, with the utmost desire to be fair, may do injustice to a proposition so many-sided and subtle.

The earlier *Logic* was rather more open in its explanations. We read there that thought has its own specific nature, and therefore its forms have a character distinguishing them from the real which under any supposition is contrasted with thought. At the same time, these forms of thought, the acts of thinking, have a colouring due to the nature of the real or to something which is even more closely connected with the real than thought itself. This something is more closely defined as the metaphysical categories, the ultimate assumptions (*Voraussetzungen* is the term used) which reason finds itself compelled to make in regard to the real. Thus thought holds a peculiar and intermediate position. On the one hand, it is opposed to, and distinct from, the mere sequence and combinations of psychical experience, which the natural laws of mind bring forward; in each of its acts and forms there may be traced the special feature of critical reference to a ground or determining condition, and the succession of logical acts may be regarded as a series of steps through which the critical activity of thought proceeds in the attempt to arrange the whole material of experience as a coherent, determined reconstruction of reality. On the other hand, the forms of thought are not identical with the fundamental assumptions of reason in respect to the nature of the real; they are but ways in which the psychical experience, the *Vorstellungen* of the thinking spirit, is brought into conformity with these assumptions (*Logik*, 1843, pp. 18, 23).

The later work is less explicit in its introductory statements, but its procedure manifestly turns upon the same considerations. There is implied throughout, and more fully defined in the detailed discussion, a comprehensive conception in which no opposition of the real and the spiritual experience of the individual is involved. Thought as belonging specifically to the individual thinking spirit may, indeed must, stand in such relations with the real as follow necessarily from their conjoint existence in the sum total of being. But its nature generally, and the characteristics of its particular forms exhibit, when scrutinised, clear marks of the fundamental difference that obtains between them. The world of thought is the changeless, dateless realm of ideas,

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in which is no becoming, no development, no existence as fact. Ideas have validity, but not factual reality. They are true, but not existent. And though the animating principle of thought is, in the later work, expressed more cautiously, as the act of "adding to the reproduction or severance of a connexion in ideas the accessory notion of a ground for their coherence or non-coherence," yet the exposition of the successive stages through which the principle finds realisation is dominated by the reference to metaphysical assumptions regarding the real. Much of the later work, the Third Book in particular, is but a free, semi-historical defence of the peculiar position assigned to thought.

Without offering for the present any criticism on the ultimate view which is involved in Lotze's method of regarding Logic, I would point out that Lotze finds himself in some difficulty when the question arises how the forms of this logical activity are to be discovered. It is by the notion of *ground*, applied to the conception of the contents of perceptive and representative experience, that is to say, by a rather easy psychological reflection, that he helps himself along, and makes the first all-important step. The mere notion of a ground for the combination or severance of ideas that may have come about mechanically through the natural laws of mind, implies the consciousness of a distinction between the simply subjective play of thought and the content of those thoughts which seem to enjoy a peculiar species of objective being. No question with regard to validity or truth can possibly arise until the psychological data have undergone the remarkable process to which Lotze, following earlier thinkers, gives the name of Objectification. The *object*, be it remarked, and Lotze is careful to remark, is not to be simply identified with the real; it is for thought, in thought, and by thought. More closely examined, it will be seen that the act of objectifying is at once an act of *positing*, *i.e.*, setting a content before one, distinguishing and comparing. The characters of the posited content, the distinctive marks by which one object is opposed to another, the possibility of comparing, are given, not made by thought. In particular, Lotze thinks, it is a merely fortunate fact, that the world of cognisable stuff affords means of comparing and universalising. That things should present themselves as comparable in degree, number and extensive quantity, is no necessity of reason, but a fact which thought has thankfully to accept, and without which its most complex acts would be deprived of their essential basis. These elementary processes through which perceptive and reproductive experience receives form as knowable matter have left traces of themselves in the fundamental types of grammatical forms, but they are to be viewed as preceding the specifically logical acts, as pre-requisites for the critical activity of thought rather than as forming part of it. The main types of the logical act Lotze takes without further discussion. Concept, judgment and syllogism are ways in which the problem thought

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sets before itself, that of reducing experience to a systematic whole in which each combination or separation shall have its ground, is gradually solved. The activity of thought, which finds successively expression in the form of concept, judgment, syllogism, is a higher development of the same function through which the idea of an objective order became possible, and in its development pre-supposes and rests upon the results of that function. Logical thought, in fact, is to be regarded as a continuous criticism of the crudely formed experience in which ideas of individual facts and vague general representations of similarities are already given, a criticism animated by the single principle that for the conjunction or severance of facts in presentation adequate grounds can and must be disclosed. The concept, the judgment, the syllogism are modes in which *coherence* as opposed to mere conjunction of fact is represented. That it should be possible to obtain a coherent representation is a fortunate accident, depending on an arrangement of the real contents of experience which is not itself a necessary truth; for it is quite conceivable that even to a spirit animated by the principle of logical connexion, experience should offer a dislocated mass of isolated facts which would allow no exercise to its logical function. The same general consideration lends strength to the conclusion, for which other grounds may be adduced, that the forms of logical coherence are not to be rashly viewed as in themselves modes of connexion of the real. The relations of universal and particular, of condition and consequence, have no *existence* as facts. They are valid forms of thought, and have a content of their own, but they have not existence as things or even as reciprocal modes of things. What their content is Lotze allows to appear only in the course of the exposition which traces their development, and he leaves much more obscure in the later treatise than in the earlier *Logik* the answer which might be offered to the question, What determines the varieties of content? For it is not immediately apparent why the merely formal demand for coherence should obtain practical satisfaction in the way of concept, judgment, syllogism, or rather in the assumed relations of which these are the subjective modes of realisation. In the earlier *Logik* the reference to the ultimate metaphysical assumptions supplied a partial key to the difficulty: the concept there appeared as the mode of apprehending the logical substance; judgment as the way in which the relations of universal and particular, of determining rule and determined instance, of conditions and consequences, relations implicit in the content, were subjectively expressed; and syllogism as the mode of representing the systematic whole in which universal and particular, ground and consequence, rule and case are the isolated, abstract parts. In the later work, the scrutiny of the logical forms proceeds with greater freedom, and though it follows the same path, it makes less distinct reference to the underlying metaphysical question.

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The essence of the Concept Lotze finds in the peculiar thought which accompanies the presented or represented features, whether mere singulars of perception or generalities formed by the unconscious operation of the discursive activity, the thought of the determining rule or basis. In the process of conceiving, the object, whether a genus or an individual, is viewed as containing in its content the determining rule from which follows the combination of marks making it up. This rule or logical basis is a higher universal than the mere generic image, and it is not formed by the mere omission of marks, which the ordinary logic takes to be the mode of formation of notions. Nor is the relation of rule to determined particulars exhaustively given in that of whole and parts; there fall therefore to be rejected, as but clumsy adumbrations of the truth, many of the 'properties of notions' with which formal logic has delighted itself.

The concept, however, is an imperfect expression of the logical activity. It is itself but a transitory form, midway between the immediate, confused and incoherent knowledge of the object which is appropriate to perception and the completed cognition in which all that enters into the object would have its value, position and relations adequately determined. Moreover, it simply places the determining rule alongside the specific features, whether constant or variable, of the objects conceived, and leaves it undecided how, precisely, we are to understand the relation of the universal to its particulars, of the logical substance to its accidents. A more definite attempt to express the nature of the thought-relation between the opposed elements is found in the Judgment. The essential factor in the judgment, the copula, has no other function than to convey the notion which we form of the relation which binds the material contents of experience into conceivable coherent form.

The instructive survey of the forms of judgment, occupying the two chapters of Lotze's First Book, raises many points of interest to the logician, but it is the less necessary to dwell on them since the theory has already been brought before the English reader, partly in Mr. Bosanquet's "Logic as the Science of Knowledge," in *Essays in Philosophical Criticism*, partly in Mr. F. H. Bradley's *Principles of Logic*. The main object of the survey is to determine the value of the form of judgment as a mode of expressing thought-relation among the contents of ideas (*i.e.*, of psychologically given experience). It is a kind of criticism but little familiar to logicians; Hegel only, to whom Lotze owes here and throughout much more than he is disposed to acknowledge, has subjected the form of judgment to a similar analysis. Lotze himself is probably much influenced in his grouping of the modes of judgment by the general consideration of the successive grades of knowledge, from its crude indeterminate beginnings to the ideal goal of completed systematic insight, and this consideration supplies a serviceable key to the distribution adopted. The

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impersonal judgment, the simplest form, while bearing on its surface the mark of the distinction into subject and predicate, which is at once the essence and the perplexity of the judgment, yet leaves the subject entirely undetermined, and so throws little or no light on the kind of relation which in judgment as such is contemplated as uniting subject and predicate. The ordinary categorical judgment, asserting that the subject *is* the predicate, finds itself at once met and baffled by the question, How can one determined and distinct content of thought *be* another? References to the relation of substance and accident, thing and property, do but throw the difficulty forward and convert the simply assertive judgment into a more complex form. In his criticism of the categorical judgment Lotze traces the perplexity mainly to the contradiction between the form of judging and the law of identity; for while the one asserts that S which is a determinate content *is* P, another determinate content, thought, proceeding under the law of identity, refuses to contemplate an S which is anything but S, a P which is anything but P. It does not seem to me that the criticism is at all furthered by the appeal to this so-called law of thought; for the solution of the difficulty is to be found, and is found by Lotze, in showing that the abstract conception of identity has no real application to the case in question. A thought which could proceed by affirming only identity of content is no thought at all. It would have been better simply to insist on the patent fact that the merely assertive judgment, the qualitative or positive judgment, fails to express what it proposes to express, fails to show how a unity is possible between the diverse logical marks of its two factors, the subject and the predicate. That the universal is in some way the particular, and *vice versâ*, that the individual is only a determinate, fully known fact when more than an isolated unit,—all this is implicit in the mere assertion contained in the simple, qualitative judgment; but the form of the judgment is wholly inadequate to the thought which is implied in it. Lotze, however, constantly tends to view the world of thought, of ideas, as that in which the bare, abstract rule of identity is the all-supreme law, and finds in this a peculiarity of thought which effectively distinguishes it from reality.

Escape from the perplexity of the categorical judgment Lotze finds, first, in the transformation which the assertion undergoes when it is quantitatively determined as expressing of all, or some of the subject, the previous predicate. Even here, however, as he insists, the logical form is unequal to the task thought has imposed on it. We find ourselves either in the position of reasserting a blank identity, or reduced to a repetition of the impersonal existential judgment. It is only in the hypothetical judgment, which, by its very form, denies the supreme validity of the abstract rule A = A, that the logical form of thinking finds for itself a means of expressing a relation of differences that is at

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once a unity for thought, and yet not a blank identity. The law of sufficient reason thus stands alongside of and supplementary to the law of identity; yet Lotze, true to his preconception of the nature of thought, will have it that the superior and fruitful principle is of but inferior validity, that it is no necessity but a fortunate fact, an assumption "the truth of which is guaranteed by the concentrated impression of all experience". One hardly knows what to make of this, or how to understand the curious property of thought, which, subject in its own nature to an absolute law of a most stringent, but perfectly worthless character, shall yet make an assumption violating its own law and delightedly find that the thinkable world conforms thereto. It is a specimen of Lotze's excessive caution, and perhaps the consequences that would seem to follow from it might be invalidated by some portion of his metaphysical theory of the real. I note it here as bearing on the general view which animates much of the author's polemic against other philosophies.

The final, most developed group of forms of judgment appears as supplying a much-needed addition to the hypothetical. In the latter, there appeared, in the only way which could satisfy thought, the principle that the individual is determined by the universal. The individual *is* not the universal, but it is individual only through conditions or grounds, the interconnexion of which is itself represented only by a universal proposition. This interconnexion justifies and explains the quantitative determination which appears in the general (or, as we might call it, *abstract*) judgment, in which the predicate P is asserted of S, *i.e.*, of any individual S, because this participates in the general characters of S from which follow as consequence the predicate P. And since it is not P vaguely or generally that follows a vague, indeterminate S, but a particular modification P^1, P^2 or P^3 which follows a modification of S—S^1, S^2 or S^3, the general judgment finds its complement in the disjunctive. The disjunctive judgment, again, while the completest form in which, by judgment, the unity of subject and predicate can be expressed, has its mark of imperfection in the undetermined choice of alternatives which it offers. It shadows forth the union in thought of subject and predicate, but as it at the same time, while explicitly pointing to a systematic interconnexion as the basis of such union, does not contain the interconnexion, it finds its supplement in the Syllogism, the mode of thought in which the interconnexions of the conditions with that which they bring into a unity of thought is formally expressed.

The serial arrangement of judgments finds its counterpart in the distribution of syllogistic forms, but here the material for discussion is too rich to allow of any thorough examination. It is good that attention should be drawn, as Lotze's chapter cannot fail to draw it, to the precise character of the forms of inference familiar to ordinary logic as the categorical, inductive and analogical syllogisms, and to the inadequacy of these to discharge all

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the work which thought has to perform in framing a logically coherent conception of experience. The more complex forms, the quantitative and the classificatory, present problems of a special character, and on the whole one's feeling sometimes is that Lotze's method of transition is arbitrary and artificial. One misses the stringency of a connecting idea from which these varieties would follow, and though one thankfully accepts what Lotze frankly offers regarding the ideal type of completed, systematic cognition, it is not easy to understand its full drift or to perceive its bearing on other portions of his exposition. Without discussing these points, I proceed to notice the general problem which underlies the whole work, and which is formally though unsystematically discussed in the Third Book, the problem of the relation between the structure of thought and the nature of reality.

Lotze has chosen to develop his views in a semi-historical fashion, criticising various conceptions of value that have come forward in the history of speculation, and defining his position in reference to the aspects of the whole problem so presented. The problem itself may be variously defined as an inquiry into the worth for reality of the forms of thought, or as an investigation of the nature and grounds of certainty in knowledge. The discussion of Scepticism yields two important results, on one of which at least there can be little misunderstanding. That the sceptical view of knowledge implies the principle that reason is capable of attaining truth, criticising its own procedure and determining the worth of grounds, is an argument not less strong because it is familiar and direct. But the radical notion of scepticism that knowledge, by its very nature as a mediating process, as a connecting link between reality and the thinking spirit, is for ever incapable of attaining to a perfect cognisance of the real, is subtle and many-sided, requiring no small care in handling, if any result of value is to follow. Lotze, so to speak, turns the flank of the sceptical doctrine, by insisting that, after all, knowledge can be nothing but a mediating process, can be nothing but the systematising of what is given in the experience of the thinking spirit, and therefore that any question regarding the *truth* of knowledge must be expressed and discussed in terms that are appropriate to the matter in hand. The abstract nature of things, which presents itself as an element in the sceptical reasoning, is after all a conception, the notion of what the order of things must be, and the problems which scepticism had formulated in an unintelligible and unanswerable fashion must be re-stated. It must be asked, what are the characteristics of assured and certain cognition within that world of knowledge in which only the venue lies. One form of answer, a significant and far-reaching thought, Lotze finds in the Platonic theory of a world of Ideas, and the discussion enables him to advance a further position of his own doctrine. The Ideal world may be the home of certain and consistent contents of thought, but the mode of

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existence of these thoughts, it must be definitely recognised, is not that of real being as things, or even of occurrence as events. They have validity, but not factual existence. Within themselves they may form a concatenated system, from point to point of which the thinking mind may proceed with the certainty of insight, but Plato could not explain, nor does it seem within the scope of the theory to explain, the kind of relation which must be thought between the realm of the eternally valid ideal contents and the reality of things. Even if we allow that in the Ideas is to be found a system of interconnected parts, the Platonic teaching afforded no answer to the deeper question, what are the ultimate elements or principles, and how are they related to the dependent portions of the system. The attempt to answer this new problem Lotze takes to be the gist of the opposed doctrines of modern philosophy in respect to the origin of knowledge, the *à priori* and the empirical. His criticism rests upon a general assumption or metaphysical principle applied to the special case of interaction between the reality of things and the thinking mind (§§ 325 ff.). The result of action on the mind is invariably conditioned by the nature of mind itself, and only in the special forms in which that nature expresses itself can the result make its appearance. Experience, therefore, must always exhibit an *a priori* side, and only in experience can the *a priori* truths, the formulations of what is the essence of the thinking mind in its contributory function, be discovered. The necessity and universality, the self-evidence, characterising these truths, cannct be exhibited as resulting from isolated psychological events, nor is it by the psychological method that insight into the peculiarity of knowing can be obtained.

Throughout these discussions there has been quietly growing in strength the doctrine that the formed product, knowledge, depending as it does on the peculiar nature of the thinking spirit, has a special mode of existence, and that its modes, though doubtless corresponding to elements in the reality of things, are not themselves to be taken as forms of the real. In the fourth chapter this doctrine receives explicit statement and ample illustration. The reality which appears in the formed content of thought is "wholly dissimilar to existence and can only consist in what we have called Validity or in being *predicable of* the Existent". Nay, even the content apprehended in knowledge has the peculiar timeless and changeless mode of being expressed in the Platonic Idea. It is indifferent both to the subjective movement of thought and to the changes of the empirically presented world of perception in which the real seems to be directly given. In this last clause is found the final problem for Lotze's view of thinking. How can we represent any relation between the world of thought-contents, about which we can make only one assertion as necessary for thought itself, *viz.*, that each thought-content is itself and no other, and the changing stream

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of perceptive experience? Having brought the separations of knowledge to their ultimate form, how are we to understand the junction which appears to take place? The answer which Lotze makes depends to a large extent on the manner in which the separations have been expressed, but it is fairly given in the three positions signalised by him. First, any assertion within the sphere of knowledge regarding real existence is hypothetical. Secondly, we must assume that the empirical, perceptive world has law in itself. Thirdly, we may obtain by a scrutiny of perceptive experience itself certain directly given synthetical truths, on the basis of which thought, discursively proceeding by its own formal rules, may confidently hope to erect a structure of knowledge that shall not only be consistent but in harmony with the laws of fact. On the first and second of these positions I offer no remark; they are simple statements in appearance, but in reality conceal a whole philosophy. The third is the most interesting, for it brings to the front the question which throughout the *Logic* has been in the background: To what extent has Lotze succeeded in justifying his restriction of the functions of thought to the discursive, mediating act of passing from premisses to conclusion? On this limitation depends the worth of his separation between logical and metaphysical relations, and the validity of his general view of the logical forms. Thought has been placed in opposition to the real, as antithetical to, though corresponding in some way with, it; in the movement of thinking the apprehended content has inevitably found expression in the forms of concept, judgment, syllogism; yet these forms, it is insisted, are in no way relations of the real. Now we find Lotze introducing a new distinction, from which would follow a far more serious restriction of the function of thought, a much more limited notion of the significance of the logical forms. Dealing with knowledge, he re-instates the Kantian doctrine of synthetical *a priori* judgments, assigns these, however, in a thoroughly un-Kantian fashion to a perception which does not contain the element of thought, and regards them as self-evident, intuitively grasped data, from which the discursive, elaborative activity of thought may proceed in the construction of a knowledge that adequately represents the real. One would raise little or no objection to what is said regarding the self-evidence of these data, and the necessity in the long run of resting knowledge on self-evidencing judgments; there is here, doubtless, one of those fruitless problems of philosophy which owe their origin and interest to the enormous difficulties of stating simple facts; but one cannot avoid asking, What, then, in their nature, are these primitive data? Are they *judgments*, apprehensions of a connexion in real fact, which by inherent light approve themselves as being connexions in fact and not merely subjective modes of apprehending? Only the affirmative answer can be yielded by Lotze, though, as was said, he prefers to disguise the answer by using

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the term "perception". If then we insist that thought has only to deal in the fashion of elaboration with such formed products, we must recognise that in so using the term "thought" we refer not to that which is responsible for the specifically logical forms of concept, judgment and syllogism, but to the mode in which thinking as a phase of the concrete psychical life of the individual mind is carried out. We can no longer maintain that to thought are assignable the fundamental relations that make up the essence of concept or judgment; by thought can only be meant the special exercise of dealing with material already formed, in the modes which we have called the forms of judgment and concept. That there may be such a discursive exercise may pass without further question; the restriction of the word "thought" to it has no justification, and it excludes us from regarding the logical forms as in any way expressing the essence of thought.

It is not from one portion only of Lotze's exposition that one would reach the same result. Looking back on his account of the procedure of thought, we find that he starts his survey of the logical activity with the presupposition that material for thought has already received a special handling, has already been formed into definite objects, with distinguishable and comparable marks, and, moreover, in the history of the logical activity, the somewhat vague notion of *ground* has been made to play a very remarkable part. For under its cover there have been quietly introduced into the contents of thought, of the concept, *e.g.*, the all-important features, aspects, of determining and determined, of essence and appearance, of law and modifying circumstance. If one asks,—What, then, are these aspects of the objective content conceived (apprehended in form of a concept)? Are they *thoughts*?—no explicit answer is given. Lotze has been consistent in holding that underneath the logical operation of thought, in the wider sense in which he used that term, there have always lain the metaphysical assumptions, but he has never fairly faced the question whether these are not in their essence thoughts. The difficulty of accommodating the logical activity to these ultimate determinations of objective reality becomes still greater when his narrower conception of thought, as a merely elaborative, mediating process, is to the front. For then one may fairly ask: If knowledge, the whole structure that is due to the operation of discursive thinking, be based on immediate data, which are in form judgments, but which cannot be exhausted by the one law of discursive thought; if the procedure of thought involve throughout determinations that are not traceable to the activity by which notions, judgments and syllogisms as modes of elaborating come about; if, finally, the ideal which thought involves cannot be expressed as the reduction of experience to an analytical whole,—is it not entirely without justification to identify the discursive activity with thought? Are not the accompanying features of this discursive process the genuine characteristics that make up

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the essence of thought, and is not the discursive process itself but a phase of the concrete life of spirit, the analytical effort of understanding?

It is the opposition between the apparently timeless and changeless content of thought, and the changing, temporally modified content of perceived reality that weighs most with Lotze and causes him to distinguish so sharply Logic from Metaphysic; yet without diminishing the opposition, one may well doubt the interpretation he has given of it and the conclusion he draws from it. Were one to allow to the fullest extent that the essential aspects of the real, those by which it is intelligible for us, are in their nature "thoughts," and that "thought" is but another name for the system of such thoughts, one would still recognise that, when thought is taken in abstraction from the concrete reality of thinking mind and external reality, it presents the timeless and changeless character of the Platonic Idea. But such result is due to the abstraction that has been made; it is we who make the opposition, not the nature of things; and the characteristic of the realm of ideas attaches to it not as an entity in itself, existing in isolation from the real, but as an *abstractum* with no independent, *factual existence*, not even existence of a kind different from that of the real. The world of thought *per se* is truly a 'kingdom of shadows' when we compare it with the full reality of concrete existence, but not on this account should we suppose that thought is somehow divorced from things and has but a formal function in their regard. The perplexities to which such a supposition leads take ample vengeance for the error of mistaking a distinction in thought for a distinction of thought from things.

The minor oppositions which prey upon Lotze seem to connect themselves with the same fundamental consideration. The life of the individual subject contains no perfect picture of the world of being; that there should be much in it which but imperfectly represents the real relations of things—that the human mind should pursue many a devious path and be liable to varied error—is hardly surprising, and one need not on that account suppose an original and impassable separation between reality and knowledge. The consideration of the ways in which our thinking attains to knowledge, of the methods by which crude imperfect experience is transformed, belongs to Psychology rather than to Logic. In sum, what Lotze has marked off as Logic seems to be no independent doctrine, but in part the fragment of a larger whole, the treatment of thought, which is Metaphysic, in part belonging to the history of the development of knowledge in the individual mind, which is Psychology. That Lotze uses Psychology in a narrower sense, that he tends to contrast the psychical mechanism with thought, may be regarded as an expression of the deep-seated disinclination he throughout manifested to contemplate a constructive, systematic philosophy. Justification for the view can be found only in his final metaphysical conception,

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which, at all events in large part, is accessible in the *Metaphysic*. In a subsequent notice of that work, I propose to consider farther the bearings of his general philosophical position on his treatment of Logic.

ROBERT ADAMSON.

A System of Psychology. By DANIEL GREENLEAF THOMPSON. 2 vols. London: Longmans, 1884. Pp. xiv., 613; viii., 589.

The general point of view from which Mr. Thompson's *System of Psychology* is written may be described as that of an empirical psychologist who, while not rejecting other methods of investigating mind, chiefly practises the introspective method as applied by Mill and Professor Bain. Mr. Herbert Spencer's influence is also evident throughout the book; but it is an influence proceeding from the analytical psychologist more than from the philosopher of evolution. No influence except that of these writers (who are all mentioned by the author in his preface) seems to have very profoundly affected his thought. He sometimes refers to the Kantian criticism, but only to reply to isolated objections brought against empiricism from the Kantian point of view. The importance of physiology and of experimental methods as applied to psychology, and the necessity of the study of mind as a social product are recognised by him. He has indeed several chapters devoted specially to physiology in the first volume. But the newer methods of the more modern empiricists do not suggest much to him. The theory of evolution he fully accepts; but he only makes use of it to help out his argument on special questions.

This limitation of view has its advantages as well as its disadvantages. It is undoubtedly true, as Mr. Thompson himself says, that, however much help may be got from other methods than the introspective method, the introspective method is after all the peculiar method of psychology: that "we may take away the data obtained from objective examinations (*i.e.*, from the study of physiology, of social life, &c.), and we shall still have a science left, though an imperfect one; but remove the data reached by introspective observation, and we have no more a science of psychology" (i., 81). This being so, it is interesting to see how much can be done by an acute analyst with little aid from any other method than the method of direct analysis of states of consciousness. Now Mr. Thompson has unquestionably considerable analytical power. And, whatever may be said as to the incompleteness of his method and the defects of his philosophical point of view, it must be acknowledged that in going over the ground traversed by his predecessors he is nearly always able to make some new observation, or at least to suggest some novelty of statement.

Although Mr. Thompson's book claims to be a system of

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psychology, not an argument in favour of any philosophical position, he does not succeed in perfectly detaching his psychology from all metaphysics. The question, therefore, as to his attitude as a philosopher cannot be quite passed over. He defines philosophy as knowledge of the highest degree of generality, and also as an examination of the postulates of the special sciences. Before entering upon the special treatment of psychology, he states, as the first of its postulates, the absolute distinction of substance between Ego and Non-ego. This, he says, is the postulate of all the sciences equally. Psychology, as well as physical science, from beginning to end implies it. Having distinguished between the substance of mind and the substance of matter, he goes on to distinguish between "Ego-phenomena" and "Non-ego-phenomena". "Ego-phenomena" themselves have to be "objectified" in order to be observed. We can never seize the subject underlying mind by an act of introspection; in introspection we always come upon some particular state of consciousness; yet there is no escape from the assumption of "an antithetical and mutually exclusive Ego-subject and Non-ego-subject". It is possible, indeed, that there may be only one subject with two aspects; but this cannot be asserted, for we can know nothing of the nature either of the substance of mind or of matter. Mind and matter, the author concludes in the last chapter of the book, "may be said to present a double-faced unity". But this is to be taken as a generalised statement of the observed concomitance of mental and material processes, not in a strictly philosophical sense.

Mr. Thompson's summary of his view of the relation between mind and body is a more than usually clear and consistent statement of Professor Bain's "double-aspect theory". But this is, of course, a purely scientific formula. It is impossible to be quite sure of his metaphysical position. Doctrines that are inconsistent with one another are stated and left unreconciled. Sometimes Mr Thompson seems to take the purely scientific view and to leave the question of the nature of the assumed substances of mind and matter to philosophy; sometimes he denies that the question is soluble; yet in several passages he seems to decide it in a dualistic sense. Again, in his statement of the relation of philosophy to science, three distinct views are suggested. We are told first that philosophy is the synthesis of the sciences, then that it is the theory of knowledge, and lastly we are left to infer that it is identical with metaphysics in the sense of ontology.

There is occasionally, however, some originality in Mr. Thompson's treatment of questions of philosophy. He does not seem to be very familiar with recent criticisms by the English Kantians on the ordinary empirical doctrine; yet there is in one or two places coincidence with their most characteristic expressions. For example, after defining "nature" so as to include—(1) material objects, (2) other minds, (3) the "object-ego" (that is, all states of consciousness that can be submitted to introspection),

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he goes on to say: "Make what synthesis we can and are pleased to make and call the result nature, we nevertheless cannot get rid of the supposition of the subject Mind which excludes itself from nature and nature from it, which itself makes the synthesis we call nature" (i., 151-2). This position is nowhere confronted quite distinctly with the traditional empirical position of the author. But he would probably say that it is not really inconsistent with the doctrine derived from Locke. There is, in the chapter on "necessary truth," a very good defence of Locke against those who suppose him to have imagined "that truths of experience are wholly independent of the 'understanding,' the faculty of cognition 'itself,' or 'a peculiar constitution and activity of the mind'." Passages such as these show at least that the idea of a criticism of knowledge is not altogether foreign to the mode of thought of a disciple even of the purely experiential school.

In order that the discussion of some of Mr. Thompson's own contributions to psychology may be followed more easily, a general outline of his systematic treatment of the subject must first be given. His book is divided into ten Parts. The Introductory Part deals chiefly with the relation of philosophy to science, and of psychology to the physical sciences; the fourth chapter (on "The Expression of Science") is an analysis of language in which the author (as he points out in a note) closely follows James Mill. The Second Part is devoted to a general analysis of consciousness. In the first chapter of this Part (c. 8), the ordinary division of states of consciousness into those of intellect, emotion and will is stated. As a result of further analysis, the author finds that the consciousness of "difference," of "agreement," of "time," of "representation," and of "power" are all fundamental (c. 9). Part iii. deals with "The Material Conditions of States of Consciousness". The author finds exact agreement between the results of a "general analysis of external things," and of his "general analysis of states of consciousness". To the five fundamental modes of consciousness already defined, correspond in the external world "relativity," "consistency," "extension," "presentativity," "force". Parts iv. and v. are on "The Genesis of States of Consciousness" and "The Factors of the Development of States of Consciousness". These parts contain much discussion of the relations of "reflex" and "automatic" action to one another, and of the questions how far each kind of action is accompanied by consciousness, and what are the relations of consciousness and "unconscious activities". In Part vi. (on "The General Development of States of Consciousness"—i., 445—ii., 56; cc. 35-48) the author returns to the ground of subjective psychology. Parts vii., viii., and ix. contain a more detailed account of "Cognitive Integrations," "Integrations of Feeling," and "Volitional and Ultimate Integrations". Finally, in Part x., the author discusses "The Disintegration and Dissolu-

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tion of States of Consciousness". The last chapter of this Part (c. 75, on "The Connexion of Mind and Body") has already been referred to.

Perhaps the most characteristic feature of the early parts of the book is Mr. Thompson's mode of stating the parallelism and contrast of the external world and consciousness. The fundamental modes of consciousness he finds, as has been seen, to correspond to certain fundamental relations of things in the external world. His treatment of the pair of relations called Time and Extension may be taken as typical of his treatment of these opposed relations generally. Time, he holds, belongs exclusively to the Ego, extension to the Non-ego. Time has its two modes of "sequence" and "duration," extension its two modes of "motion" and "permanence," and these correspond but are not identical. "Sequence," which belongs to the subject-world, is not to be identified with "motion," which belongs to the object-world, nor "duration" with "permanence". Again (taking the ordinary classification), just as every state of consciousness, though it is called distinctively a volition, or a thought, or a feeling, has yet an element of all three modes of consciousness, so in the external world we find everywhere associated force, matter and space; force corresponds to the volitional element in consciousness, matter to the element of passive feeling, and space to the element of cognition, that is, relation.

This brings us to an idea that is very prominent in Mr. Thompson's analysis of "the material conditions of states of consciousness". It is not perfectly original, but it is at the same time one that is not to be met with very frequently in recent speculation, and it seems to have been arrived at independently. According to Mr. Thompson, we must speak of "force" and "space" as two kinds of "body" or "matter". Force is "resisting body"; space or extension is "non-resisting body". Just as there is a sensation to which "resisting body" corresponds, that is, the sensation of impeded movement, so there is a sensation to which "non-resisting body" corresponds, the sensation of unimpeded movement. If we think of space as body we are indeed compelled to think of it in terms of force, that is, to think of it as resisting; but this is because we never find space limited except by resisting body, and whenever we think of space we are compelled to imagine it in limited portions. Resistance and extension are opposite sides of our experience of the external world. "The two ideas of extension and resistance are mutually exclusive"; but "as a fact of experience, resisting bodies never occur without the presence of non-resisting bodies". The entire aggregate of bodies is termed Body or Matter, which has its two "attributes or modes" of Force and Space. Force is the abstract of all resistances, Space the abstract of all extensions.

In the general analysis, as well as in the rest of the book, two things are to be specially noted—the recognition, on the one

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hand, of the fact that all the fundamental modes of consciousness and relations of things are found together in the same experience, that we can never find one element of experience perfectly separated from the rest; and, on the other hand, the refusal to make the attempt to resolve the relations between states of consciousness into a smaller number than those we arrive at by the purely introspective method. Mr. Thompson, it may be inferred from what has been already said, refuses to follow Mr. Herbert Spencer in his resolution of the relation of co-existence into relations of sequence. He indeed asserts the impossibility of ever resolving either of these relations into the other. "Co-existence," he says, "is a primordial experience arising from the capacity of the bodily system to receive two sensations simultaneously" (i. 138). Similarly he treats "the consciousness of representation" as an ultimate fact. His position with regard to memory is—that the consciousness that an idea is a repetition of a past impression, to which we at once refer it, is incapable of resolution into any simpler kind of consciousness.

The fact that we have a "consciousness of representation," thus regarded as ultimate, is made use of to explain the difference between Knowledge and Belief, and between Intuition and Inference. Chapters 36 and 37, in which these applications of the author's theory are made, have already appeared separately as articles in MIND VII., XI., XII.; but on account of their importance and for the sake of showing their relation to other parts of the book in which they are now incorporated, it may be well to give a brief summary of them here. The character of belief as distinguished from knowledge is, according to Mr. Thompson, that in the state of mind we call belief we are more strongly conscious of the representative element in our cognitions. Cognition viewed on its presentative side is knowledge, on its representative side belief. "So far forth as all mental states involve belief, and all have a volitional side tending toward activity, so far and no further is preparedness to act associated with belief, and the latter with the former" (i., 475). "What is ordinarily termed intensity of belief is either close union of associated ideas, or strength of feeling accompanying the reproduction of experiences" (i., 479). Again, "in the distinction between presentative and representative knowledge lies the entire difference between immediate and mediate cognition, and thus between intuition and those cognitions which are not intuitive" (i., 494). There are, indeed, no "unmixed intuitions"; all knowledge has a representative element. But "to the extent that a cognition is presentative it is intuitive; in the degree that it is representative it is not intuitive" (i., 494). "Inferring and believing are the same cognitive act, both being phases of representative cognition. In believing, the mind dwells upon two cognitions seen to agree or differ, without considering attentively the relations of those two cognitions to anything save each other. In inferring, the mind usually con-

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nects two pairs of cognitions and cognises a relation of agreement in difference between them" (i., 514). In accordance with its "original and only justifiable use of designating cognitions which are characteristically presentative," Mr. Thompson contends that the term "intuitive" has no application to "necessary and universal truths".

This line of argument is followed up in the chapters on "Theories of Intuitional Knowledge" and "Necessary Truth" (ii., cc. 57-8). In the chapter on "Necessary Truth," the author arrives at the doctrine that "all expressions of fundamental truth are analytical". From this it is inferred that "necessary truths are a growth". "That which adds to the intension of a concept is a synthesis; that which declares this intension is analytical. The same expression may at one time be synthetical, as when it indicates an addition to one's knowledge, and at another may be analytical, as when the knowledge thus attained is set forth" (ii., 286).

In treating questions where the limits of pure psychology are passed and the region of philosophy is entered, Mr. Thompson is not quite at his best. The merit of clearness and logical consistency must be allowed to his view of the nature of necessary truth; but at the same time it must be said that his treatment of the question stated by Kant as to the possibility of synthetic knowledge *a priori* is inadequate. Attempts have been made to express Kant's results consistently with the experiential doctrine; and in a chapter on necessary truth in which Kant is referred to, something more definite should have been said of them than is to be met with here. The author does indeed say incidentally (in reply to the Kantian argument that without an activity of the mind no experience would be possible) that "the later psychological researches have made out very conclusively that the earliest consciousness arises in connexion with feelings of movement, and that when the dawn of consciousness occurs there is action by the mind outward as much as there is action upon the mind inward" (ii., 279). He also says that "if there be anything wanting to completely account for the appearance of necessary convictions in the individual mind, it is fully supplied by the law of inheritance" (ii., 284). These, however, are merely thrown in as casual suggestions; and when ideas have been developed from the points of view indicated in order to solve the difficulties of ordinary empiricism, and these ideas are accessible, it seems as if something more ought to have been said about the newer points of view. Perhaps, however, the reason why the chapter on "Necessary Truth" seems inadequate is, that it is in great part polemical. The research for new points of view might seem a little superfluous when the question was how best to dispose of the arguments of Dr. Porter and Dr. L. P. Hickok.

As an illustration of Mr. Thompson's success in dealing with problems of pure psychology may be mentioned his attempt at a

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new classification of states of consciousness at the end of Part vi. In the passage about to be quoted, as elsewhere, the influence of Mr. Spencer's classification of states of consciousness into feelings and relations between feelings is perceptible; but there is originality in the application of Mr. Spencer's doctrine. The author has said in the earlier part of the book that "as a matter of fact we do not get isolated definite conscious experiences, but so far forth as they are definite they are cognition, and so far forth as they are indefinite they are feeling" (i., 363-4). That is, when the element of relation as distinguished from feeling becomes prominent, we have what we call distinctively cognitions. Again, in dealing with will, he has pointed out that the element of "will" present in all states of consciousness cannot be the element of conscious choice, but only the element of "spontaneity" which is found even in those "automatic" actions called involuntary. Hence if the term "will" is to be retained as the name of one of the three fundamental modes of consciousness, we must admit that there are acts of will which are strictly speaking "involuntary," because they involve only the "dynamic" element in will, not the "selective" element. At the conclusion of the chapter in Part vi. on "Volitional Development," these two lines of thought are thus brought together.

"The bearing of these considerations upon the ultimate nature of volition is plainly to induce the belief that will is nothing more than a mode of feeling. We should then have feeling as homogeneous indefinite consciousness. From this there would be differentiated cognition as definite, integrated consciousness, but volition would be the feeling of representative conflict, representative action and resistance. All consciousness is of motion and resistance. Hence we should have two grand divisions of mental states: Consciousness of Peripheral Action and Reaction (Organism and External Environment), and Consciousness of Central Action and Reaction (Organism and Internal Environment). Each of these divisions would be subdivided into Feeling or Indefinite Consciousness and Cognition or Definite Consciousness. Consciousness of Peripheral Action and Reaction would give our knowledge of the External World; Consciousness of Central Action and Reaction, our knowledge of Mind. Behind all Consciousness there would be postulated the Subject Ego, the source of all Consciousness, the Unconscious Automatic Activity, of which we have no consciousness further than we postulate such a Power inevitably in all exercises of Consciousness" (ii., 30).

This, as the author says, is only put forth tentatively. But in the classification of states of consciousness into active and passive feelings more or less definitely organised, it is impossible not to see at least an extremely good suggestion. The idea would perhaps seem still better if the expression of it were not coloured by the view that there is no consciousness accompanying efferent nervous currents, that the muscular sense, for example, is (directly) of wholly peripheral origin. (As regards "will," Mr. Thompson's view may be compared with Mr. Mercier's in MIND XXXVI. 521.)

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In the passage quoted above there is a reference to the "Unconscious Automatic Activity" which is the source of all consciousness. Though the expression here has a philosophical rather than a strictly psychological reference, the idea of unconscious mental activity is made use of by the author in its psychological bearings also. His treatment of the related psychological questions is clear and interesting. There is no confusion of psychology with physiology; but he sums up the evolution of mind through its stages of consciousness and unconsciousness rather too simply. His statement is not the result of the convergence of various lines of research. When, for example, he says that "states of consciousness arise midway between ancestrally organised unconscious nervous movements and experientially organised unconscious nervous movements," that "out of unconsciousness springs consciousness, and into unconsciousness it lapses" (i., 295), this is a good summary of one particular way of considering the facts, of that, for example, which is characteristic of Mr. Spencer's treatment of Instinct; but it has not the independent value of the author's contributions to analytical psychology. The same thing may be said of the physiological chapters generally.

When we return to the purely psychological part of the book, we find that Mr Thompson has something new to say on most topics. In discussing Imagination, for example, he makes a very good suggestion in the way of terminology.

"There seems need of a name to indicate the first two degrees of representative cognitions, that is to say, those in which the representation is of simple matters of experience, as the recollection of a particular impression upon the senses, like that of a tree, a ray of light, a series of events. These are nothing more than recollections of percepts, that is representations of percepts. Accordingly the name Re-percept is here employed to designate them. A Re-percept is a represented percept" (ii., 60).

This term Re-percept seems to supply exactly the name that is wanted. Attention is drawn at once to the representative character of the "re-percept," and to the fact that it is a repetition of a percept. It is distinguished on the one hand from mere percepts, and on the other hand from the "higher representative cognitions," the products of analysis and constructive imagination.

In the Part of his book that deals with "Volitional and Ultimate Integrations," Mr. Thompson argues that only pleasure in some form can be an end of action. He has already (in Part viii.) classed pleasures and pains as "primary," secondary," and "tertiary".

"Primary pleasures and pains are those of the fundamental appetitive sensations; secondary pleasures and pains are those attached to the immediate objects, concrete or abstract, through which the individual considers that he has secured and expects to secure the primary pleasures and pains; tertiary pleasures and pains are those attached to the most general and

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abstract notions of what are regarded as causes of pleasures and pains" (ii., 299).

He now shows how desires come to be attached for the most part not directly to represented pleasures but to concrete objects. The abstract notion of pleasure, it is pointed out, is formed for intellectual rather than volitional purposes.

"The volitional activities do not keep pace with the intellectual, but rather aim at real concrete things as objects of desire. The mind does not desire *pleasure* as such, but rather *things* which are pleasurable. . . . So that what we desire is things definitely cognised, and those things are in the first place objects outside of ourselves. . . . And when action or volition is directed toward subjective things, it is necessary to objectify them" (ii., 555).

We can form an idea of the pleasurable feeling accompanying the acquisition of an object and make that feeling itself an object of desire. But the pleasure which accompanies the cognition of a pleasure is "a dilution of the original pleasure". "Practically, therefore, we desire and seek for the most part non-ego objects rather than subjective experiences objectified, though pleasurable feeling is still the motive of the desire" (ii., 556). Dispositions are classed as "synedonistic" or "antedonistic" according to the degree in which they are directed towards ends whose attainment brings other pleasures in addition to the one directly aimed at, and according as compensating pains are absent or present (c. 58, on "The Value of Ends and Dispositions"). It is shown that dispositions to make ends of the secondary and tertiary pleasures are to a greater extent synedonistic than dispositions to make ends of the primary pleasures. In the discussion of the primary pleasures and pains, the doctrine that pleasures are the accompaniment of increased and pains of diminished vitality, is both explicitly stated and implied throughout, but the evolutionist speculations as to the cause of this seem to have been without influence on the author.

The passages that have been referred to must of course be taken merely as specimens of Mr. Thompson's contributions to psychology, not as a complete account of all that he has done; but they are sufficient to show that if he has not systematised the science from any new point of view, he has at least carried the analytical methods of the older psychology further in various directions. The criticism will perhaps be made that some of the less original matter in his book might have been omitted with advantage. For example, the exposition of "the laws of somatology" (*i.e.*, of external nature as distinguished from mind), taken in part from text-books of physics, and in part from Mr. Herbert Spencer's *First Principles*, and again of the general results of zoology, botany, and physiology, and of the principles of logic (including the rules of the syllogism, the canons of induction, and the classification of fallacies) may seem to some

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readers superfluous. And it is really an objection to these portions of the book that they do not seem to form an organic part of it. But the error of including them (if it must be considered an error) is due to the desire for completeness. The author tells us in a note at the end that in writing his book he has had in view partly the systematising of his own knowledge. If in doing this he has sometimes not been able to add anything of his own, but has merely followed the authorities, this can scarcely be complained of. Mr. Thompson (a kinsman of the famous Count Rumford, to whose memory the book is dedicated) has devoted himself to the study of psychology in the intervals of a busy professional life in New York; and while this would be no excuse in case of failure, it ought to be mentioned as adding to the merit of the success which he has actually achieved.

THOMAS WHITTAKER.

La Psychologie de l'Association depuis Hobbes jusqu'à nos Jours. (Histoire et Critique.) Par LOUIS FERRI, Professeur à l'Université de Rome. Ouvrage couronné par l'Académie des Sciences morales et politiques. Paris: Germer Baillière, 1883. Pp. iv., 378.

The majority of recent writers on Psychology attempt to account for all mental facts, including those of perception, judgment, memory and inference, without the aid of any substantial or causal agent producing and uniting these facts, in other words, without any *psyché* or soul. The theory which Aristotle employed to account for the serial reproduction of movements (κινήσεις) in a soul existing independently of them and furnishing the ground and unifying principle of the series, is now employed, with some very important changes, to account for the constitution of the soul itself. In other words, the writers referred to seek to account for all psychological facts by a fortuitous "Association" of what they term "Ideas," but what are in reality sensuous movements or images; whence the soul or mind is described by one of them as "a circumscribed aggregate of activities" (that is, actions). It is difficult to conceive such an aggregate except as a kind of midge-dance with the midges left out; and indeed one can hardly see why this should not be a perfect definition of the soul or mind as conceived by these writers, especially if we imagine that each round of dance as soon as performed is replaced by its shadow, which intermittently returns as often as a similar round dances itself.

That any such theory as this should have been put forward seriously to explain the facts and processes of mental life, it is hard to believe; it is still harder to believe that it should have ever met with any great acceptance; that it should meet with general and lasting acceptance seems impossible. We need not,

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therefore, be surprised when we find one of its most devoted expounders telling us that "the cohesion of these activities [which compose the soul], one with another, throughout the aggregate, compels the postulation of a something of which they are the activities".[1]

Exactly so: a bundle or cluster or aggregate of activities exerted and grouped by nothing is inconceivable, is a pure absurdity, and the attempt to describe it mere nonsense. To show this in detail, to prove that the theory of the Association of Ideas is utterly inadequate to account for the facts of psychology and that these facts cannot be explained without the postulation of a something of which these facts are the activities, and to point out that this something, for which the ordinary names are soul, spirit and mind, is actually given in consciousness and therefore does not require to be postulated,—is the purpose of the work before us.

The author, Prof. Luigi Ferri, has spent the greater part of his life in France. He received his education there, and has written his more important works in French. For a number of years past he has occupied a prominent position in the higher educational institutions of his own country. To an accurate acquaintance with English, French and German philosophical systems, he adds, what is as rare as it is important, an extensive knowledge of Italian philosophical systems, and has published, in two volumes, an *Essai sur l'Histoire de la Philosophie en Italie au XIX^ième^ Siècle*, a work which deserves to be widely known. It is this familiarity with Italian philosophies, and particularly with the systems of Galluppi, Rosmini and Mamiani that, in large measure, accounts for the author's point of view, and gives his work its peculiar value.

The present work is divided into three parts, of which the first two are mainly historical, and the third mainly critical. In the first an account is given of the theory of association, as held by Hobbes, Locke, Berkeley, Hume, Hartley, Zanotti, Priestley and Erasmus Darwin; in the second, an account of it as held by Thomas Brown, James and John S. Mill, Bain and Spencer. Each is followed by a brief *résumé*, summing up results and pointing out defects. Zanotti's views will probably be new to most readers. In the third part the author undertakes to show the true nature and limits of association, and to specify what must be added to it in order to produce a satisfactory theory of the mental faculties. To this arrangement of his matter he was almost bound by the terms of the thesis proposed by the French Academy, which were these: "Exposer et discuter les doctrines philosophiques qui ramènent au seul fait de l'association les facultés de l'esprit humain et le moi lui-même. Rétablir les lois,

[1] H. Spencer, *Psychology*, I. ii., 1, § 59.

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les principes et les existences que les doctrines en question tendent à dénaturer ou à supprimer."

In the First Part, Prof. Ferri shows that, while Hobbes, Locke and Berkeley hardly went beyond Aristotle and St. Augustine in their treatment of the association of ideas, Hartley and Hume founded the now prevalent theory according to which not only memory, but mind itself, is the result of association. He shows that they did this by a simple disguising of facts clearly presented in consciousness, that is, by denying that we have any notion of force or energy or any knowledge of a relation of causal necessity, in other words, by suppressing the notion of substance and confounding imagination with intelligence. He points out, moreover, that, by leaving no mind to be a source of spontaneity, they fail to explain so comparatively simple a thing as habit, and that Hume, by his ungrounded assumption that all ideas are mere copies of impressions, is forced to sacrifice both logic and the feeling of reality, thus remaining consequent only by setting at nought the uniform testimony of consciousness. He further remarks that Hume's error is due to his adoption of a false method, *viz.*, that of *analogy*, instead of that of *reflection* or simple observation; in other words, that Hume tried to explain the facts of mind by a synthesis of elements not derived from an analysis of mind itself. In this way he could only produce a caricature, in which the most important faculties of mind, *viz.*, its active powers, were wholly wanting. Prof. Ferri seems to think that Hume's method suffices to explain the passive side of consciousness, memory and imagination; but this is by far too great an admission; for it is no more possible to explain passivity without a patient (*πάσχων*) than activity without an agent. What he says of the error committed by the associationists in confounding ideas with images is excellent, and touches the core of the whole matter; and the same may be said of his remarks on free-will, which the associationists are forced to deny.

The Second Part contains many weighty criticisms of which we have no room to speak. The most important by far is that which deals with the psychological writings of Mr. Spencer, in whom the theory of association may be said to culminate and to express its essential nature. This criticism touches chiefly the following points of Mr. Spencer's doctrine—(1) his confusion of feeling with consciousness of feeling; (2) his confusion of images with ideas; (3) his distortion of the nature of the relations of object and subject, by representing them as two aggregates differing mainly in vividness and consistency; (4) his attempt, on the one hand, to derive mind from matter, which is necessarily extended, and, on the other, to derive matter from mind, by reducing relations of extension to relations of succession; (5) his treason to his own principles in positing a *nexus* or *noümenon* in both the Ego and the Non-ego, a *nexus* which, though it has never been an observable "state of consciousness," is nevertheless

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known as the only thing permanent in consciousness; (6) his error in method in putting analogy in place of observation, synthesis before analysis; (7) his almost entire neglect of the higher faculties of the soul, intelligence, judgment, volition, and his ranging them below the faculties of sensation and instinct; (8) his mistaken view of the nature of free-will. Many of these points are treated with great acuteness and justice, and Mr. Spencer's system is shown to be inconsistent, not only with the most evident facts, but even with itself.

The Third or critical Part is divided into five chapters. In the first, which relates to the limits of association in the production of knowledge, the author shows that it would not explain even sensation, not to speak of judgment. It seems to explain sensation only because the word *sensation* is used in a loose sense, to mean sometimes the act of feeling, sometimes the term of feeling or the phenomenon, and sometimes both at once. Here the author ought to have added an unsparing criticism of the theory of association, in so far as it is based upon the confusion caused by the phrase "state of consciousness". A more unfortunate phrase was never coined. In the first place, consciousness has no states, being a perfectly simple, never changing act, no matter what its terms or objects may be. In the second place, a state of a thing is not an element of a thing, in the sense that it can have any existence apart from the thing; in other words, the states of a thing cannot *enter* into association for the simple reason that they have no separate existence. In the third place, granting that sensations were states of consciousness, we should have to admit that that which entered into all these states was itself permanent and different from them all. A thing is never any or all of its own states. The truth is, consciousness is the active and receptive relation of a subject to an object, and can no more be confounded with either or both of them than grinding can be with mill-stones. It is as absurd to talk of states of consciousness apart from a subject and an object of these states, as it is to speak of states of weather apart from sun and atmosphere. What Prof. Ferri says of the inadequacy of association to explain judgment, which implies at once association and dissociation, is excellent; but I must take part with Kant and Rosmini against him, when, in opposition to them, he tries to show that sensation is not blind, but is a kind of cognition. What success he has in this attempt is entirely due to his confounding with sensation faculties essentially distinct from it. Maintaining, with good reason, that sensations do not associate themselves, he posits something to associate them and turn them into a cognition, something having a relation at once to the subject and the extra-subjective terms of its modifications; but he calls this something, indiscriminately, *feeling*, *intuition*, *apperception* of relations. Now, it is just this confusion of intuition and apperception with feeling that disguises the true nature of all the three

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and introduces the worst difficulties into the theory of cognition. Feeling, as such, has no object, being merely a state; intuition has an object, but an indefinite one, not implying a judgment; apperception has a definite object and involves an implicit judgment. By failing to make these distinctions, Prof. Ferri makes almost fatal concessions to the associationists. That that which combines feelings and turns them into a cognition must stand related both to that which feels and that which is felt, is most true; but it does not follow that both functions are performed by the same agent, and indeed they are not. Feelings are combined by the feeling of space intensified and differentiated by the feelings of the body; they are turned into a cognition by the intuition of being, in which the principle and term of feeling appear as subject and object. The lowest animals even are able to combine their feelings; but they certainly are not able to form a cognition or apperception out of them. Throughout the latter part of this chapter there is apparent a considerable uncertainty of view on the author's part, due to a want of clearness with regard to the limits of sensation and intelligence. The distinction which he attempts to draw between sense-perception and judgment is almost illusory; for there can be no perception without a consciousness of difference, and there is no consciousness of difference without an implicit judgment, involving the perception of a common element or universal underlying the difference. The author, therefore, although perfectly right in maintaining that judgment must be distinguished from association, is wrong when he holds that it must be distinguished from perception. Association is not perception.

In the second chapter, which deals with association in the reproduction of cognitions, and in which the author substantially adopts the theory of Sir William Hamilton, we find the same want of clearness which we remarked at the close of the previous chapter. Association is still made to produce perception, and sensations are confounded with sensible qualities. It seems that a group of sensations, or *sensible qualities*, existing in mutual contact ("en contact réciproque") in space and time, would, in some way or another, perceive itself as such a group, although it would not be able, without the aid of a "subsequent intuition," to perceive its own differences and resemblances. But a group of sensible qualities is not a group of sensations, and, even if sensations could form groups, they could not appear as a series in time except to something capable of going beyond sensation, which, however complicated, is, as such, always confined to the present moment. Indeed, time is not a form of sensation at all, but a form of intuition, which Prof. Ferri not unfrequently confounds with sensation. The truth is, he is so willing to be fair to his opponents, and to make all possible concessions to them, that he not unfrequently slips into the very errors he is combating, thereby greatly and unnecessarily weakening his own

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position. Towards the end of the chapter he makes a valuable observation,—*viz.*, that the serial bond of reminiscence is not time, in other words, that the power to recognise an object is quite distinct from the power to place that object, as originally cognised, in its proper temporal relation; but he is wrong when he thinks that the true bond is formed by resemblances and differences. The falsity of this doctrine has been recently exposed in an admirable way by Mr. Bradley. The conclusion of the whole chapter is excellent: "The truth is, the relation of identity, of whatever kind it may be, on the one hand, necessarily enters into the function of recognition, and, on the other, presupposes a perception of relation, which is not sufficiently accounted for by the co-existence and succession of aggregated molecules and their movements".

The third chapter, which treats of the "Faculties of the Soul," attempts to show what factors, over and above association, are required in order to account for the facts of cognition as actually presented to us. These factors the author finds to be summed up in a substantial, unitary, permanent entity or energy, underlying and continuing all transient acts, and endowed with life, sensibility and instinct. Whether these entities are originally of various types or of one only, he does not say, although facts seem to speak for the former alternative. Inasmuch as he does not seek to account for the origin of these entities, he leaves us to suppose that he considers them without beginning, in other words, that, to some extent, he accepts the monad-theory of Leibniz.[1] In this I can only most cordially agree with him, for the reason that I cannot conceive evolution possible except through the interaction of originally distinct entities, serving as environments to each other. I cannot understand how a single entity or energy, without any environment, could undergo evolution. The only criticisms I should make upon Prof. Ferri's theory are these: (1) That life, sensibility and instinct are not three co-ordinated activities, but absolutely one and the same. Life is sensibility and instinct: sensibility and instinct are, respectively, the passive and active sides of life. (2) That life, including sensibility and instinct, does not account for intelligence; and that it seems to do so in Prof. Ferri's hands only because he has failed to distinguish feeling from intelligence by the proper test. This test is found in the fact that intelligence has an object, while feeling, as such, is only a state. In order, therefore, to account for the facts of cognition, we must posit an original entity, endowed not only with life but also with an original intuition, such as is the essence of intelligence. It appears to me also that life and intuition are resolvable into the

[1] Later on, as we shall see, he waives this view in deference to the prevailing monism of synthetic systems that cannot distinguish the ideal from the real.

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higher unity of being, in other words, that whatever truly is, and is not merely phenomenal, is endowed with life and intuition, however much in certain beings they may be disguised. Starting with this one assumption in regard to the nature of being, we may, it seems to me, find a satisfactory explanation of the whole course of evolution and of that ideal unity which we call the universe, such an explanation as does not seem possible on any other hypothesis. In this connexion the following passage deserves to be quoted :—

"In the order of sentient beings, accommodation presupposes an active subject which accommodates itself to an environment, in consequence of needs which it feels, and sensations which cause it pleasure or pain. By reason of sensibility and the influence of the organism, the activity of the animal has a direction which depends upon their laws and conditions. You may reduce the type of this activity to as simple an expression as you please ; you may go back, if you choose, to Hæckel's protista and monera ; you will never be able to banish from them certain primitive automatic tendencies, unerring and exact in their manifestations, depending on determinate needs, were they but those of nutrition and reproduction. Now, these tendencies are nothing more or less than the instincts in their psychological root. They are the elements which we find at the origin of the animal world, and whose appearance is not explained by mechanical causes" (pp. 279-280).

At the close of the chapter, the author proves by irrefragable arguments that the mechanical theory of the universe, maintained by the associationists, must be supplemented by a dynamical theory, on pain of explaining nothing and even of being itself unintelligible. In other words, we must go behind sensation and cognise that of which sensation is but an expression, and this we can do only by means of a faculty having pure entity for its object—the faculty of intelligence, so misconceived and misrepresented by the associationists. His theory of *dynamism* Prof. Ferri explains further on, in his concluding chapter.

To the fourth chapter, which treats of "the Ego and Consciousness" and of the "Substantiality of the Soul," it is impossible here to do justice. It is the most important chapter in the book, and the one in which the author has most closely followed Rosmini. He shows that upon no supposition is it possible to regard consciousness as a result of unconscious facts ; that consciousness is an act *sui generis*, depending upon a primitive intuition which nothing else can explain ; that this act, instead of being passive, like sensibility, is active and cognises activity and agents ; that it continues as a potentiality of cognition even during sleep, and that the Ego is the direct unphenomenal presence of the substance of the soul in consciousness. Between the Ego and the Non-ego comes the phenomenon or intuited series of sensations ; between the Ego and itself there is no such medium. Here intuition acts directly and grasps the substance. Only upon this condition is a science of metaphysics pos-

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sible, a science which even Mill in his latter days admitted to be absolutely necessary. The author concludes that, if we wish to employ the serious language of philosophy, and to express psychological facts as they present themselves, instead of using mere imaginative phrases, we must not say that our inner life is composed of "states of consciousness," of which sensible phenomena are the elements, but of acts and passive modes, very closely connected with physical appearances, but differing from them as much as extension and space differ from what is unextended and unspatial. And he adds that, "placed on this basis, the proof of the substantiality of the soul, through the identity and unity of the Ego, is irrefragable". The rest of the chapter is devoted to the question of the state of the soul during sleep, and to a refutation of M. Ribot's doctrine that the facts of *amnesia* show the soul to be composite, a refutation which seems to me complete.

The fifth and concluding chapter contains much weighty matter compressed into far too brief a space. Here the author shows the true sense and limits of the equivalence and transformation of force, and proves that these facts, which he admits to a greater degree than he ought, so far from being at variance with a theory of permanent causes, receive their explanation only in such a theory. He maintains that transformation extends only to transitory actions conditioned by space, not to substances, which are not so conditioned, and that, just as physics posits permanent atoms as the bearers of mechanical force, so metaphysics has a right to posit permanent spirits as bearers of those forces which are not mechanical. This position is supported by a strong array of facts and arguments and seems impregnable. In saying this, I do not mean that I agree with Prof. Ferri in all that he says. Indeed there are several points which seem open to criticism. (1) Here, as throughout the whole work, spatial externality is confounded with objectivity, and both with extra-subjectivity. This causes great confusion and considerably weakens his position. The confusion arises from the failure clearly to distinguish feeling from intuition. (2) In consequence of the same failure, the ideal is not accurately distinguished from the real. The consequence is that the author finds it necessary to place behind all the individual entities of which we have experience a single universal, real energy, which he conceives as their common base, and thus creates for himself an insoluble problem: How does the initial energy, after having produced life, constitute feeling principles or souls, and form spirits (p. 315)? He acknowledges that he is driven to posit this "initial energy" merely by "the dialectic movement of thought" (p. 314); but does not see that such movement would justify him only in positing an ideal unity, not a real one. This tendency to metaphysical monism is the chief blemish in the book, and is due to that confusion between intuition and sensation which we have already pointed out. It necessarily leads to agnosticism.

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But in spite of a few blemishes, mostly due to a spirit of concession, Prof. Ferri's work is one of the most important that has appeared in philosophical science for a long time. It marks a return to sober analytic thinking and a rejection of that method which would construct the world synthetically out of figments of the imagination. It affords, in my opinion, a complete refutation of the psychical theory of the associationists.

THOMAS DAVIDSON.

Ueber die Reize des Spieles. Von Dr. M. LAZARUS. Berlin: F. Dümmler, 1883. Pp. xvi., 177.

In this essay which was briefly noticed in MIND XXXV., Prof. Lazarus gives us a psychological study of the nature and sources of fascination of Play. The writer is deservedly popular. He is particularly happy in taking some concrete manifestation of mental life, as Humour or Tact, and subjecting it to just that amount of analysis which the "educated reader" will bear. Nor is this analysis to be dismissed by the scientific specialist as superficial. Dr. Lazarus has an acuteness of vision which stands him in good stead in spying out the many fine fibres that make up the roots of these concrete mental growths. The happy union of scientific exactness of thought and attractiveness of presentation is no less conspicuous in this essay than in those making up *Das Leben der Seele.* A psychologist could hardly select a lighter or more agreeable subject than Play, and the manner is worthy of the matter. The essayist writes with a bright enthusiasm. He makes the reader recognise that he has himself come under the sweet spell of pastime, and is not afraid of spoiling his delight by touching it daintily with the fine instrument of psychological analysis.

Dr. Lazarus begins with a perhaps needless apology for the selection of his theme. The widespread interest in play and games is ingeniously established by a comparison of play-literature with that of dietectics, from which it appears that in Germany, at least, there are more people who want to know how to play than how to digest. He then passes to the most difficult part of his task, the definition of Play. Here we have a careful consideration of the usages of everyday speech, and a painstaking attempt to rationalise what at first sight looks like an arbitrary and capricious custom. Very curious are the national differences in this respect. Thus we call the Olympic and other Greek national contests games, whereas the Greeks themselves did not. So, again, we differ from the ancients in applying the word 'play' both to dramatic representation and to musical performances. The author is of opinion that the Germans have reached at once the most comprehensive and the deepest notion of Play. Under German, one presumes that Dr. Lazarus includes English, to which indeed he makes a reference; but he does not touch on the suggestive fact that we do not give the

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terms 'play' and 'game' precisely the same extent. Possibly a comparison of these again with 'sport' might have thrown still further light on the subject.

The essence of Play, according to our author, is activity undertaken solely for the pleasure it immediately brings. This gives the most essential element, but not the whole specific nature of play. There are other pleasurable activities, as hunting, riding, &c., which are not play. The distinguishing characteristics of play are set forth in the form of contrasts. Of these, the most important is that between play and work. Play is easy, agreeable activity, undertaken as recreation in moments of leisure. Again we have the contrast, familiar to childhood, between play and earnest, and this serves still further to differentiate play from work. Work may be easy and pleasurable, and play may involve a good deal of bodily or mental exertion; but the former always has its end outside of itself, the latter in itself. Once more play is appearance, a kind of make-believe (Schein), whereas work is reality. Yet here we must distinguish between playful simulation, as in the games of children and the drama, and the delusive appearance which is often kept up in the midst of serious life and which "is not only no reality, but not so much as a real play". Dr. Lazarus then goes on to elucidate the idea of play still further by reference to the usages of language. The figurative use of the word, as in describing the movement of water or the flow of thought, distinctly suggests the free aimless character of the process. The connexion of the idea with activity, and especially visible activity or movement, is illustrated by the suggestion that we speak of playing the piano or the violin (but not wind-instruments), because we see the performer moving his hands. The essential aloofness of play from all the ends of life is most distinctly illustrated in the case of cards. Finally, the affinity between play and social entertainment is clearly set forth. Play is companionship in leisure. "If people come together in order to play, it is no less true that they often play only for the sake of coming together". Still it is a mistake to include all social intercourse under the rubric of play. Conversation of the lightest and most entertaining character differs from play first of all in its greater freedom (for all play, though spontaneous in respect of its initial impulse, is controlled by its own laws), and still more in its attachment to the realities of life.

From this examination into the nature of play, Dr. Lazarus concludes that to talk with Schiller of a distinct play-impulse is misleading. The motive to play is complex, and therefore analysable. Before all things, the impulse to play is the fundamental impulse to maintain conscious life, and so to be active, in opposition to the state of inactivity and nothingness. And here the author tries to refute Pascal's pessimistic idea that we fill our hours of leisure with play in order to escape the feeling of a universal and inevitable misery which ever lurks in the back-

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ground of the human mind. More definitely, the impulse to play is the love of free spontaneous activity, which is necessitated neither by a natural nor by a moral law, and the impulse to realise a full consciousness of our own powers naturally leads to a seeking out of more perfect and beautiful forms of activity than are possible in real life, as we see in the case of dancing as contrasted with walking, and singing as contrasted with speaking.

In this analysis, careful and ingenious as it is, one misses all reference to one important factor. Dr. Lazarus seems to me to make the separation too absolute between the useful purposive activity of serious life and the purposeless activity of play. His language in describing the impulse to maintain conscious activity suggests that we have a love of activity in the abstract, so to speak, rather than a sum of tendencies to well-defined modes of activity corresponding to our powers, and to our habitual modes of action in the real work of life. Play is doubtless the antithesis to work. Yet, as the essayist cannot fail to see, it is after all only the mimicry of work. And this is only to be understood when we consider the genesis of play, a problem the consideration of which unfortunately finds no place in Dr. Lazarus's essay. That a psychologist should at this time seriously set himself to write a monograph on Play and never once refer to Mr. Spencer's luminous idea of a surplus activity, is a fact which provokes a certain style of reflection. The Germans cannot complain, I think, that we neglect their psychology. Is it too much to ask them in return just to cast a glance now and again at the poor efforts we are making to advance the science in our far-off island?

After the general analysis of play comes the special examination of its several varieties. These are grouped under three classes: (1) Games of Chance and of Intelligence (Verstand); (2) Exercising Games, and (3) Show-play (Schauspiel), that is, Play in the theatrical sense. Each of these groups is handled with a good deal of technical knowledge and with fine psychological insight. In explaining the powerful fascination of games of hazard, the author makes good use of the principle that emotional excitement is sustained and increased by a conflict of opposing ideas with their contrasting feelings. Thus in the gambler's mind it is the continual alternation of the ideas of winning and losing, hope and fear, which keeps up the intense excitement. Next to this fundamental contrast, there are other and subordinate ones, as, for example, that between the absolute unimportance and indifference of the external event—*e.g.*, red or black—considered in itself, or objectively, and the player's passionate interest in this issue. Again, one of the most characteristic ingredients in the gambler's passion is the consciousness of an antagonism between the individual, that is to say, the most personal of all things, on the one side, and, on the other, the most impersonal of things, Chance. The way in which imagination works here, ever personifying the power that opposes us,

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while reason all the while tends to dissolve the personification into absolute nullity, is very skilfully depicted. Indeed, in spite of what the novelists have written on this fascinating subject, they might gain new ideas from a careful perusal of Prof. Lazarus's essay. The same principle of contrasting feelings is applied with good effect to the explanation of the peculiar charm of cards, a game of which it is pretty safe to say the author has often experienced the refreshing and recruiting effects.

The discussion of the second group, Exercising Games, is on a level with the rest of the essay, though there is less here of psychological importance. In treating of Show-play (Schauspiel), however, Dr. Lazarus finds ample scope for his peculiarly subtle ingenuity. The pleasure of all spectacles is first touched on, then the peculiar pleasure of a show, that is, of a spectacle specially designed for the spectator. After this the writer takes up and criticises Schiller's idea that all Art falls under the rubric of Play. Here the author seems to me to be at his best when he distinguishes the play-side of art from its higher æsthetic aspect, and when he probes the nature of the so-called theatrical illusion, and contends that the effect of dramatic representation, so far from depending on a belief in the reality of what we see, implies a continual consciousness of its unreal play-like character. There is much in this section on the drama which I should like to say something about, but my space is exhausted, and I can only urge all who are interested in the psychology of art to read it for themselves.

JAMES SULLY.

Präludien. Aufsätze und Reden zur Einleitung in die Philosophie. Von WILHELM WINDELBAND, Professor an der Universität Strassburg. Freiburg i. B. und Tübingen: Mohr, 1884. Pp. 325.

The ten essays contained in this volume, though independent of each other, are intended to serve as the "prelude" to a systematic treatment of philosophy. This must not be taken as implying an intention on the author's part to add one more to the many "systems of philosophy" which Germany has produced. Professor Windelband, like Lotze, thinks the time for all-embracing systems has gone by. In his *Geschichte der neueren Philosophie*, ii., 308, he writes most appreciatively of Hegel's magnificent attempt at an encyclopædic comprehension of the universe, comparing the position of Hegel in German science to the "universalism" of Goethe in literature. For himself he limits philosophy to the three divisions of Logic, Ethic and Æsthetic (*Präl.*, p. 39). He considers his philosophy "critical" in the Kantian sense: "All who philosophise in the nineteenth century are disciples of Kant: but the return to Kant must not be a mere renewal of the particular form which Kant gave to his philosophy. To understand Kant is to go beyond him" (p. vi.). The main point in the Kantian philosophy Professor Windelband takes to be the dis-

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tinction between a genetic or historical question about origin (Ursprung) and a critical or philosophical question about validity (Werth). In the other sciences we have to do with *Urtheile*, judgments as to fact (*e.g.*, this is white, this is pleasant): in philosophy with *Beurtheilungen*, judgments as to value (*e.g.*, this is true, good, beautiful). The psychological and historical examination of the development of an idea is perfectly legitimate, but beyond it remains the philosophical question as to the validity of that idea. If any like to call these historical and psychological investigations philosophy (as is often done in France and England) they may do so, but in a more special and appropriate sense the term "philosophical" must be reserved for the other problem (*cf.* pp. 28-35). The universal validity which philosophy ascribes to certain ideas is not the same thing as their universal acceptance. The universality with which philosophy has to do is an ideal, it is what ought to be (sein sollte, p. 41). The logical principle of Contradiction and the ethical principle of Duty come to consciousness in a process, but their validity is not dependent on that process: on the contrary, they must be presupposed in order to make that process possible. Thus such principles cannot be "proved" in the ordinary sense. The only proof is *teleological: i.e.*, without the principle of Contradiction there could be no science, without the consciousness of Duty no morality, without the consciousness of an Ideal no art. The full recognition of the teleological character of philosophical necessity is what Professor Windelband finds most significant in Fichte (p. 273; *cf. Geschichte*, ii., 201, 202).

Philosophy is thus the science of the *normal* consciousness. The other sciences have to do with "laws of nature," philosophy with rules (Normen). Kant's great 'Copernican' discovery is just this, that knowledge is not the copy or reflexion of an objective world (as with the Greek philosophers and all who came after them down to Kant, p. 132), nor an effect (as most modern men of science tend to assume, p. 134), but is rendered objective by the fact of our ideas (Vorstellungen) being according to a *rule*. Truth is normal thinking. ("Wahrheit ist Normalität des Denkens," p. 137.) The widely accepted and fatally influential figure of speech which makes the mind a mirror of the world is criticised with searching logic. "A strange mirror, forsooth, which itself sees the pictures that are produced in it, and which often fancies that it sees itself" (p. 128). The commonplace phrase about "comparing a thing with the idea of it" is shown to involve the absurdities which led to Hume's conclusion that we can only compare our ideas with one another, to which Hume logically added—and therefore can never attain truth.

When truth is regarded as "norm," we see the great difference between the "intellectualism" of the Greeks and the spirit of the Kantian philosophy, which recognises an ethical and æsthetical truth as well as a theoretical (p. 140). Certainly the Greeks were strongly influenced by ethical and æsthetical ideas, but

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without a full consciousness of their significance (p. 144). The contrast which Professor Windelband draws between Greek and Kantian philosophy is full of interest. Perhaps, however, it should be recognised that Plato and Aristotle at their best do get beyond the ordinary limitations of their way of thinking. But while we see in Plato's theory of ideas or Aristotle's account of knowledge that one step farther would bring them to a position beyond even Kant, we must not forget that that step was not taken.

We have thus tried briefly, but we trust accurately, to indicate Professor Windelband's position. Our references are mainly to Essays 1, 4, 6, 7, and 8, entitled respectively "Was ist Philosophie?" "Immanuel Kant: Zur Säcularfeier seiner Philosophie," "Ueber Denken und Nachdenken," "Normen und Naturgesetze," "Kritische oder genetische Methode?" The other papers must be dismissed with a few words. That on "Socrates" is mainly historical. The Essay on "Hölderlin" may be called a study in the pathology of genius. The lecture on "Spinoza" sums up his doctrine in the formula "mathematical pantheism". The abstraction of Spinoza from all the practical interests of the world (p. 110) seems to be exaggerated. The *Tractatus Politicus* shows a keen eye for actual politics and a greater grasp of reality than the famous treatise of Hobbes, along with which it is generally classed. The Essay on "The Principle of Morality" demands a longer notice. It is shown, as already said, that morality presupposes a consciousness of duty. This formal conception of duty receives a content from the requirements of society. But the duties of society are in turn determined by the duty which each society has to fulfil by working out its type of civilisation (Cultursystem). Does not this require a philosophy of History, in Hegel's sense (not necessarily according to Hegel's formulæ)? If the duties of particular societies are determined by the interests and destiny of humanity, humanity must be one, and its movements must be to some extent at least intelligible to us. From what Professor Windelband says about Hegel in this matter (*Geschichte*, ii., 324), we should infer that he is ready to admit the need and the possibility of such an interpretation of history much more than Lotze, of whose general attitude to "idealism" he in many respects reminds us. Yet he protests against Hegel's treatment of the history of philosophy (*Präl.*, p. 48).

The last Essay is a short meditation entitled "Sub specie aeternitatis". A few sentences must serve to indicate its tendency. There is a protest against the confusion of eternity with duration. "The mere duration of my existence is valueless to me." "Eternity cannot be known: it must be lived." "Its light shines not in knowledge but in conscience." "The eternal breaks through amid the changes of life in the form of the consciousness of value" (Werthbewusstsein).

D. G. RITCHIE.

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VII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

The Law-breaker and The Coming of the Law. By JAMES HINTON. Edited by MARGARET HINTON. London: Kegan Paul, Trench, 1884. Pp. xvii., 325.

Readers of the article on "Hinton's Later Thought" (in MIND XXXV.) by Mr. Havelock Ellis,—who has also written an Introduction to the present volume,—will find in this work a confirmation of what was there said as to the interest of his ethical ideas. In order to perceive all their suggestiveness the book itself must be read. At the same time, although Hinton's thought is not really obscure, its want of systematic form made a critical interpretation such as that of Mr. Havelock Ellis necessary in order to bring out quite clearly its essential character. Mr. Ellis's comparison of his speculations on the one hand with the "eternal gospel" of the disciples of Joachim of Flora, the doctrine of a final age of the world in which law shall have disappeared in freedom, and on the other hand with Mr. Spencer's speculations as to morality becoming "automatic," shows at once Hinton's affinity with the mystics and the influence of science upon him. The difference between Hinton's view and Mr. Spencer's is that Mr. Spencer's remains simply an ethical speculation, while Hinton's implies an idea which he regards as itself capable of bringing about a transition to a new stage of moral action, when once it has been distinctly realised in thought. This idea is that we must always act for "service," and not at all for our personal pleasure or pain. When men first saw the possibility of pursuing their own pleasure as an end without regard to service, they recognised this as an evil and condemned it as selfishness. But they then fell into the error of asceticism and began to regard renunciation of pleasure as an end in itself; so that pleasure was refused even when it was found attached to actions that are for service. After the discipline of the ascetic period we are ready to pass on to the final stage of moral development, the willingness to accept pleasure and pain equally, if only service may be rendered. As a preliminary to this final ethical state a kind of antinomianism is inevitable. The externally imposed law by which definite actions are prohibited must first be broken down. Then it will be seen that any action may be good if it is done for "service," any action bad if it is done out of "not-regard" to the organism of which the individual forms part; and that this "not-regard" may consist in pursuit of one's own "goodness" as well as of one's own "pleasure," in self-righteousness as well as in self-indulgence. The individual self must be regarded merely as a means; the eye must be on an impersonal end, which is service to the whole. When it has been perceived that right does not consist in particular actions which remain always the same, that a final conception of right is impossible because "nature is fluent"; when all formulas, all external commands have been abolished; then man can again become united with the whole from which he has been separated. He can again become one with Nature, which he has long been accustomed to regard as a separate thing and as lower than himself, though it is really higher and includes him. Thus he will become a recipient of all influences from Nature. The spontaneity and pleasurable activity which is the cha-

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racteristic of the work of genius in art and in science will become possible for all men in performance of service, in response to the claims of others. It is in art especially that we must look for the type of perfected moral action. For the right in art corresponds perfectly with an activity that is spontaneous and is accompanied with pleasure; while it is not done for the sake of pleasure as an end, but from an impulse towards an impersonal object—an impulse to which the artist yields because he is in union with Nature.

The Origin of Ideas. By ANTONIO ROSMINI SERBATI. Translated from the Fifth Italian Edition of the *Nuovo Saggio sull' Origine delle Idee.* Vol. III. London: Kegan Paul, Trench, 1884. Pp. xvi., 442.

Psychology. Three Volumes by ANTONIO ROSMINI SERBATI. Vol. I. London: Kegan Paul, Trench, 1884. Pp. xxxii., 420.

To the previous two volumes of the translation of Rosmini's *Nuovo Saggio*, noticed in MIND XXXI., XXXIV., the third and concluding volume is now added. The preliminary historical sections (four) of Vol i. having been followed by the exposition of his own "Theory on the Origin of Ideas" (sect. 5) in Vol. ii., three sections remain for the present volume —"On the Criterion of Certainty" (pp. 1-267), "On the force of *A priori* Reasoning" (pp. 268-350), "On the First Division of the Sciences" (pp. 351-65). Very elaborate Indexes of Authors and of Matters are appended. Critical notice will follow.

Before the completion of the one translation, there has been issued also, in similar English dress, the first volume of another of the Italian philosopher's works, the *Psychology.* Critical notice of this work will be deferred till it can be judged as a whole. The present volume, after a "Preface to Metaphysical Works" generally, and a special Introduction defining the position and character of Psychology, contains Part i., "On the Essence of the Human Soul," in five Books of which the subjects are "On the Source and Principle of Psychology"; "On some Properties of the Essence of the Soul"; "On the Union of Soul and Body and their reciprocal Influence"; "On the Simplicity of the Human Soul, and Questions to which it gives occasion"; "On the Immortality of the Human Soul and the Death of Man". The length at which these topics are treated before he comes to anything else, gives the measure of the distance at which Rosmini stands from English psychologists of all schools, whether or not of the positive instruction he has to offer. In any case, the topics afford him the fullest opportunity for the display of his singular erudition. The Index of Authors referred to in the course of the exposition – pp. xxix.-xxxii. – is itself a study.

The Atomic Theory of Lucretius contrasted with Modern Doctrines of Atoms and Evolution. By JOHN MASSON, M.A. London: Bell & Sons, 1884. Pp. xii., 249.

Mr. Masson is not in sympathy with the modern doctrines that most resemble those of Lucretius, as may be seen especially in the chapter in which he describes "how modern science bridges over the gulf between atoms and living things," and contributes something to "the controversy as to the potency of matter" (c. v.); but this has not prevented his book from being a very appreciative study of Lucretius, both on the philosophical and on the poetic side. He contends that, notwithstanding all that has been urged (by Mr. Benn, for example) to prove that the Stoics had a truer view of the uniformity of nature than the Epicureans, Lucretius, in expounding the doctrines of Epicurus, was preserving for the world a

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system to which modern science owes not only the Atomic Theory but also the conception of the absolute fixity of natural law. These conceptions he regards as consistent with the theistic view of the universe which Lucretius rejected. But his admiration for Lucretius does not make him try to prove that Lucretius himself had any affinities with theism. Although, in one or two passages where he explains the attacks of Lucretius on the idea of divine interference with nature by the character of the pagan deities, his view seems to be a little biased by his desires, he, on the whole, sees quite clearly that theistic conceptions were alien to all the modes of thought of Lucretius, that he was the predecessor of those who in modern times have regarded the uniformity of nature as inconsistent with theism. Mr. Masson finds in the *De Rerum Natura* evidence that Lucretius had not only the power of giving poetic form to scientific conceptions, but also the power of viewing nature scientifically as well as poetically. This power he compares with that of Goethe. He shows that probably Lucretius himself added much to the Epicurean explanation of things. He finds in the idea of a *concilium* of the atoms, for example, an anticipation of the idea of chemical affinity. There is much suggestiveness in his treatment of the Epicurean doctrine of the "declination" of the atoms. The idea of the free-will of man as originating in the power of the gravitating atoms to diverge slightly from their perpendicular course—a power which also gives the first occasion to their collisions—is shown to have analogies with modern doctrines such as that of Mind-stuff. At the same time Mr. Masson does not accept M. Guyau's view that "spontaneity" was ascribed by the Epicureans to masses of inorganic matter. He holds that the various tendencies of the atoms to "decline" would be conceived as neutralised in inorganic bodies, and as manifesting themselves only in the finer particles of the soul. The Epicurean doctrine of free-will in man, when combined with the axiom *ex nihilo nil fit*, led to the admission of something analogous to free-will in atoms; but external nature, according to the Epicureans as well as the Stoics, is subject to necessity.

Progressive Morality. An Essay in Ethics. By THOMAS FOWLER, M.A., LL.D., F.S.A.; President of Corpus Christi College; Wykeham Professor of Logic in the University of Oxford. London: Macmillan, 1884. Pp. 201.

The distinctive character of this book is that it is an attempt to treat ethics with reference to practice. The last chapter (the fifth) is especially devoted to "examples of the practical application of the moral test to existing morality"; and illustrations of such application are found throughout the book. In the first chapter "the moral sanction" is distinguished from other sanctions of conduct as having regard "simply and solely to the internal feeling of satisfaction or dissatisfaction with which, on reflection, we shall look back upon our own acts". To the question why the moral sanction is to be considered superior to other sanctions such as "the physical sanction," "the legal sanction," "the social sanction," the author replies (c. ii.), "first, that the pleasures and pains, the feelings of satisfaction and dissatisfaction, of self-approbation and self-disapprobation, by means of which it works, are in the normally constituted mind far more intense and durable than any other pleasures and pains; secondly, that whenever this sanction comes into conflict with any other sanction, its defeat is sure, on a careful retrospect of our acts, to bring regret or remorse, whereas its victory is equally certain to bring pleasure and satisfaction". The two elements of the moral sentiment, "moral feeling" and "moral judgment," are next distinguished (c. iii.); it is argued that since morality is actually

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progressive there must be some external standard to which the conscience becomes constantly better adapted. The moral test cannot be subjective feeling; for it is moral judgments, not moral feelings, that are progressive. Conscience, such as it is at any particular moment, ought to be obeyed, but conscience differs in different persons and is capable of modification and improvement. The test to which conscience is to be submitted, the external standard of morality, is "welfare" (c. iv.). This term is preferable to others, such as "happiness" or "pleasure" or "perfection," which have been used to describe the end of effort, because it has "less of a personal, and more of a social, reference than any of the other terms employed".

Illustrations of the History of Mediæval Thought in the Departments of Theology and Ecclesiastical Politics. By REGINALD LANE POOLE, M.A., Balliol College, Oxford, Doctor in Philosophy of the University of Leipzig. (Published for the Hibbert Trustees.) London: Williams & Norgate, 1884. Pp. 376.

Ten chapters on selected topics from the history of mediæval thought, following upon a general Introduction (pp. 1-26), and followed by an Appendix of supplementary notes or short dissertations (pp. 311-72)—the fruit of the author's two years' studies as a Hibbert travelling scholar. Making two periods in the Middle Ages, the first ended when the works of Aristotle became fully known in Latin translation, and the second when the introduction of Greek texts led to a revolt from authority, he seeks to exhibit in the first, before the influence of Aristotle was established, such traces as there were of independent thought, but "not so much in the domain of formal philosophy as in those regions where philosophy touches religion, where reason meets superstition and where theology links itself with political theory". In the second period, he confines himself "to the attempts made to frame a political philosophy, and in particular to reconcile the notion of the state with the existence and claims of an universal church or to modify those claims by reference to the necessary exigencies of civil government". The subjects taken up, in order, are—Claudius of Turin and Agobard of Lyons; John the Scot; the Dark Age; the School of Chartres; Peter Abailard; the Trial of Gilbert de la Porrée; John of Salisbury; the Hierarchical Doctrine of the State; the Opposition to the Temporal Claims of the Papacy; Wycliffe's Doctrine of Lordship. The author is engaged in preparing for publication by the Wycliffe Society the reformer's *De Dominio divino* and *De civili Dominio;* and when not thus working upon the original sources at first hand, he draws upon the latest and best authorities. There is vigour both in his thought and in his writing.

Custom and Myth. By ANDREW LANG, M.A., late Fellow of Merton College, Oxford. London: Longmans, 1884. Pp. 312.

Fourteen essays (some of them reprints) designed as a contribution to the discussion of the questions in dispute between comparative mythologists and anthropologists as to the nature of myths and their relation to language and to primitive thought. Most of them deal with particular myths or superstitions in illustration of the author's position taken up in the first, "The Method of Folklore"; the last three are of a more general character—"Fetichism and the Infinite" (reprinted from MIND XVI.), "The Early History of the Family," "The Art of Savages". Instead of being regarded as a "disease of language," myths are to be studied in connexion with the customs and general modes of thought of primitive

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societies; nor are only those races to be compared that speak languages of the same family or can be proved to have come into contact. "Myth is a product of the early human fancy, working on the most rudimentary knowledge of the outer world." "Our method throughout will be to place the usage or myth, which is unintelligible when found among a civilised race, beside the similar myth which is intelligible enough when it is found among savages. A mean term will be found in the folklore preserved by the non-progressive classes in a progressive people." The book is dedicated to Mr. Tylor, the pioneer in this way of interpretation.

Manual of History of Philosophy. By J. D. MORELL, A.M., LL.D., Author of *Introduction to Mental Philosophy, &c.* ("Stewart's Educational Series".) London: W. Stewart. Pp. 595.

This is practically a new work; for although portions of it have already appeared, they have been revised and condensed before republication. After devoting a section to "Greek Philosophy" (pp. 27-119) and one to "Middle-Age Philosophy" (pp. 123-165), under which he includes Gnosticism as well as Scholasticism, the author deals with Modern Philosophy under the heads of "Modern Sensationalism," "Modern Idealism," and "Modern Scepticism, Mysticism, and Eclecticism". His view is that philosophy tends to go through these stages successively. Some form of mysticism seems to him the final stage of thought, although there is in mysticism also "a mixture of truth and error". The last chapter of the book (pp. 559-90) is devoted to "The French Eclectic School"; and apparently it is by some such process as that of the French eclectics that the author thinks truth and error in mysticism are to be distinguished. Like the eclectics, too, he is interested in a system chiefly in so far as it is the expression of a personality. Little account is taken of recent developments of thought. He admits in concluding that philosophy through the influence of scientific inquiry and speculation has passed into new phases, but leaves these for the historian of the future.

A Philosophical Catechism. For Beginners. By ST. GEORGE MIVART, Ph.D., M.D., F.R.S., &c. London and New York: Burns & Oates, 1884. Pp. 47.

A dialogue, in ten sections, between an "Inquirer" and a "Teacher". The "Inquirer" is an imperfectly instructed disciple of the author's school in search of fuller information, rather than a possible opponent who is in need of conversion; in any case he suggests no difficulties from outside. The topics considered, in order, are—Consciousness and Certitude; Self-evident Truths; External World; Higher and Lower Faculties; Moral Goodness; Man and Brute; First Cause; Free-Will; God and Religion; Advantages of the True Philosophy. Although nothing is added in substance to what the author has written before, the *Catechism* is noteworthy as a popular manifesto on behalf of the revived Scholasticism that seeks to keep terms with modern science.

The Relation of Philosophy to Science, Physical and Psychological. An Address delivered before the Aristotelian Society, Oct. 20, 1884. By SHADWORTH H. HODGSON, Hon. LL.D. Edin., Hon. Fell. C.C.C. Oxf., President. London: Williams & Norgate, 1884. Pp. 51.

The author, in his capacity of President of the Aristotelian Society, here again states—perhaps with more point and effect than ever before—his conception of Philosophy as reflective analysis of consciousness; distinguishing between Philosophy and Science as occupied respectively with *objective thought* and *objects thought of*, and under Science reckoning with

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Psychology specially—in terms which demand the closest consideration from whoever may next, in this Journal or elsewhere, attempt anew the task of defining its scope.

Selections from Berkeley. With an Introduction and Notes. By ALEXANDER CAMPBELL FRASER, D.C.L. Oxon., Professor of Logic and Metaphysics in the University of Edinburgh. Third Edition Revised. Oxford: Clarendon Press, 1884. Pp. xlviii., 374.

"The demand for a third edition of the *Selections* has afforded an opportunity for amending the expression of the thought contained in the General Introduction and in the Annotations."

Intellectual Principles or Elements of Mental Science. Intuitions—Thoughts—Beliefs. By JOHN H. GODWIN, Hon. Prof., New Coll., Lond. London: James Clarke & Co., 1884. Pp. 275.

This book is in three parts, dealing respectively with "Intuitions or Presentations" (pp. 13-72), "Thoughts or Representations" (pp. 75-114), and "Beliefs or Convictions" (pp. 117-259). There are two appendices, one on "Matter, Substance and Properties," the other on "The Brain and the Nerves". The relation of clothes to the body throws light, for the author, upon the connexion of brain and mind. His principle for the study of psychology is that "All that is shown in consciousness requires no proof; for it is self-evident". "The rules stated by Sir William Hamilton in vindication of common-sense need no argument. Nothing is to be received in consciousness that is not really there; but everything there given is to be received as known with the same immediacy and certainty."

Criteria of Diverse Kinds of Truth as opposed to Agnosticism, being a Treatise on Applied Logic. By JAMES MCCOSH, D.D., LL.D., D.L. Edinburgh: T. & T. Clark, 1884. Pp. 60.

This pamphlet is the first of a series started by Dr. McCosh for the purpose of correcting "the impression that later science and philosophy has set aside old and fundamental truths in religion and philosophy". Two other numbers seem to have already appeared in America. The present short *Treatise on Applied Logic*, which has been made a sort of framework for the author's apologetics, falls into two parts: (1) "Criteria of Truths to be assumed," pp. 1-17; (2) "Criteria of Individual Facts and their Laws," pp. 18-60. "Meant for those who wish, for their own satisfaction, to know the foundations on which the truth which they are required to believe rests," he also hopes "it may be used as a text-book."

Marcus Aurelius Antoninus. By PAUL BARRON WATSON. London: Sampson Low, 1884. Pp. x., 338.

This is, as the author says, the first life of Marcus Aurelius that has been written in English. It is intended as "a study of the character of Marcus Aurelius," not as a complete history of his times. The information given in the book is, however, very full; systematic references are made to the original authorities, and all the works from which anything bearing on the subject could be got seem to have been consulted. A list of the books made use of by the author fills sixteen rather closely printed pages. The first five chapters are chiefly biographical. The sixth and seventh (pp. 231-308) contain an analysis of the emperor's *Thoughts*, and a discussion of his attitude towards Christianity. The extracts from the *Thoughts* in the first of these two chapters are very well arranged. In the second of them

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there is much that will be of service in enabling readers to come to a conclusion as to the real nature of the persecution of Christianity by Marcus Aurelius. The author is an American.

Les Troubles de la Parole. Par le Professeur AD. KUSSMAUL. Traduction française augmentée de Notes par le Dr. A. RUEFF, Chef de clinique adjoint de la Faculté de Médecine de Paris. Précédée d'une Introduction par BENJAMIN BALL, Professeur à la Faculté de Médecine de Paris, &c. Paris: J. B. Baillière, 1884. Pp. xv., 375.

Kussmaul's *Störungen der Sprache*, published as Appendix to Bd. xii. of *Ziemmsen's Handbuch der Pathologie u. Therapie* and to be had separately in 2nd ed. (1881), has since 1878 been procurable in English but only within the large Vol. xiv. (pp. 581-875) of the American translation of *Ziemmsen*. Those who wish to possess in handy form, out of the original German, the most valuable treatise that yet exists on the whole subject not only of the morbid affections but also of the normal functions of speech from the physio-psychological point of view, will find what they want in this French translation. Besides giving a careful rendering of the original, Dr. Rueff has added a large number of foot-notes giving exhaustive references to the newer researches on the various topics handled, up to date, and sometimes supplementary remarks of importance. Dr. Ball's Introduction also contains some suggestive observations on the author's reflex-theory of speech.

Histoire générale de la Philosophie depuis les Temps les plus anciens jusqu'au XIX^e^ Siècle. Par VICTOR COUSIN. Onzième Édition. Revue par l'Auteur et publiée par M. BARTHÉLEMY SAINT-HILAIRE, avec une Table des Matières. Paris: E. Perrin, 1884. Pp. x., 613.

The appearance should be recorded of this definitive edition of a book that will retain a certain representative importance. It was intended to embody in permanent form the author's ideas on the history of philosophy, as the treatise *Du Vrai, du Beau et du Bien* gave the condensed expression of his own philosophical thought. The famous lectures of 1829, in which his eclectic position was defined, had contained a sketch of the history of philosophy, and this had only to be worked out and filled in from his other historical writings. Having passed through ten editions, the book was still undergoing revision from Cousin's hand when death overtook him in 1867. Since then there has been unavoidable delay in the republication, but now it is issued by his distinguished friend and follower, M. B. Saint-Hilaire, in final form, with the addition of a most admirably exhaustive Index filling more than 70 pp. Cousin's own latest corrections are merely in expression here and there, beyond the insertion of a page or two on Patristic Philosophy which he had previously passed by, as belonging to theology, in going straight from Greek to Mediæval Philosophy.

Les Philosophes et l'Académie Française au dix-huitième Siècle. Par LUCIEN BRUNEL, Professeur au Lycée Condorcet, &c. Paris: Hachette, 1884. Pp. xvi., 371.

Though intended only as a history of the "Philosophers" in relation to the Academy, this becomes in effect a history of the Academy generally in the eighteenth century. The author shows how, in that century, literature became in France to a greater extent than it has been before or since the expression of a conflict of ideas. The Academy could not remain neutral in this conflict; personal rivalries and merely literary disputes gave place to a struggle between the opponents of the established order of

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ideas and its defenders. Book i. gives a sketch of the condition of the Academy in the first half of the century, and a detailed account of its history from 1746 (the date of the election of Duclos) to 1760. Book ii. describes, from 1760 to 1770, "the conquest of the Academy" by the party that had already gained admittance, in the persons of Duclos and D'Alembert. Book iii. treats of "the conflict of the Academy with the Government" (1770-1772); and in Book iv. the history is carried on from the election of D'Alembert, as perpetual secretary, to his death in 1783.

L'Homme et l'Intelligence. Fragments de Physiologie et de Psychologie. Par CHARLES RICHET, Agrégé à la Faculté de Médecine de Paris. Paris: F. Alcan, 1884. Pp. 570.

These very interesting studies only claim to be "fragments of physiology and psychology". Yet there is running through them a certain unity of subject-matter as well as of method. They are for the most part studies in the pathology of mind. The general principle laid down by the author is, that all morbid phenomena are only the exaggeration of normal processes. Thus the psychology of disease is brought into relation with psychology in general, and even acquires special importance; for it is clear that the detection of the elements of normal mental processes is made much easier if under abnormal circumstances they can be observed in an exaggerated form. The volume appropriately begins with a study of "Pain," which, according to the results arrived at by the author, might serve as the type of all abnormal action. The method adopted in the investigation, from which these results are obtained, has been to isolate the phenomena of pain from those of pleasure, instead of treating them together as is commonly done. The most general result is the law that all pain is the accompaniment of excessive action or sudden and considerable change in the intensity of action,—that is, accompanies such action as is destructive of organic matter. After this preliminary study of Pain, the author goes on to investigate "The Causes of Disgust," which he finds to be associations of the object that arouses the feeling of disgust with some injury to the organism. He next discusses the mental effects of various intoxicants (iii., "The Poisons of Intelligence"), then the phenomena of "Induced Somnambulism" (iv.). After this follow studies of hysteria (v., "The Demoniacs of to-day"), and of diabolical possession, witchcraft, lycanthropy, &c. (vi., "The Demoniacs of former times"); all these latter phenomena are assigned to causes similar to those that now produce hysteria. In the last study (vii., "The King of Animals"), M. Richet gives utterance in a tone of enthusiasm to his view of the future that scientific discovery has before it.

La Physionomie et l'Expression des Sentiments. Par P. MANTEGAZZA, Professeur au Muséum d'Histoire naturelle de Florence. Avec huit Planches hors Texte d'après les Dessins originaux d'HECTOR XIMENÈS. ("Bibliothèque Scientifique Internationale.") Paris: Alcan, 1885. Pp. 264.

In this study of the expression of the emotions the author proceeds on the lines laid down by Darwin. After a short historical Introduction (pp. 1-19), he goes on to study the human countenance as regards the form of its separate features, and the types according to which they combine (pp. 20-66); this leads up to the detailed study of the expression of the emotions (in the second Part, pp. 67-248). There is an Appendix containing statistics of the colour of the eyes, hair and beard, among the Indian races. In the illustrative designs by M. Hector Ximenès, the author considers that his thought has been exactly followed, but, as he allows, we must

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not attribute to them the scientific value of photographs. "The laws of Darwin"—(1) "the principle of association of useful attitudes," (2) "the principle of antithesis," (3) "the principle of actions due to the constitution of the nervous centres, independently of the will, and, up to a certain point, of habit"—seem to the author to have a rather "Gothic" character. He would formulate the principles underlying emotional expression in a way "more symmetrical and accordant with the thought of the Latin races" by dividing mimetic movements as they are (1) useful for defence, (2) sympathetic. The value of Darwin's work he considers to be not in the general laws, but in the application of scientific method to the details.

Les Organes de la Parole et leur Emploi pour la Formation des Sons du Langage. Par G. H. DE MEYER, Professeur d'Anatomie à l'Université de Zurich. Traduit de l'Allemand et précédé d'une Introduction sur l'Enseignement de la Parole aux Sourds-muets par O. CLAVEAU, Inspecteur Général des Etablissements de Bienfaisance. Avec 51 Figures dans le Texte. ("Bibliothèque Scientifique Internationale.") Paris: F. Alcan, 1885. Pp. xxiv., 248.

This book originally appeared as an investigation of the anatomy and physiology of the organs of speech, with a view to the application of the results to philology. It has now been translated from the German by M. Claveau for its utility in relation to the method he eagerly advocates of teaching lip-language to deaf-mutes. M. Claveau, without giving a history of the method, quotes at length from Kenelm Digby the record of the remarkable case of its successful application seen by him in 1623 in Spain. France is now added to the other continental countries in which the method is being systematically carried out by the national authorities. Professor Meyer deals in three books with "The Structure of the Organs of Speech" (pp. 5-122), "The Organs of Speech in their Relations with the Formation of Sounds" (pp. 123-177), "Formation of the Sounds of Language" (pp. 179-245). He makes the study of the organs, not the classification of the sounds of existing languages, his starting-point; but afterwards compares with "the series of possible sounds" the actual sounds of languages (chiefly European).

Esquisse d'une Morale sans Obligation ni Sanction. Par M. GUYAU. Paris: F. Alcan, 1884. Pp. 254.

The author of *La Morale d'Epicure, La Morale Anglaise contemporaine*, and other works previously noticed in MIND, here seeks to lay the foundations of a truly scientific ethics in which "aucun prejugé n'aurait aucune part"; rejecting the mystical and "categorical" obligation of Kant and also all notion of sanction. Critical notice will follow.

Lehrbuch der Psychologie vom Standpunkte des Realismus und nach genetischer Methode. Von Ph. Dr. WILHELM VOLKMANN RITTER VON VOLKMAR, weil. o.ö. Professor der Philosophie an der Universität zu Prag, &c. *Des Grundrisses der Psychologie* dritte sehr vermehrte Auflage. Erster Band. Cöthen: O. Schulze, 1884. Pp. vii., 495.

The original *Grundriss der Psychologie* of 1856, in one volume, was increased about fourfold in the two volumes of the *Lehrbuch* issued in 1875-6, shortly before the author's death. The present edition (second of the *Lehrbuch* but third of the original work) is now coming out under the charge of Prof. C. S. Cornelius of Halle, and will be completed (by Vol. ii.) next Easter. Vol. i. re-appears as it was left by the author, with some minor changes of a formal sort, and the addition of a number of specially marked paragraphs throughout, giving supplementary bibliographical re-

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ferences and sometimes material observations on particular points; the increase amounting altogether to some 14 pp. It was especially important to bring the bibliography up to date in a book that has for one of its most distinctive features the wealth of historical references appended always by the author to his own statement of doctrine. Of the treatise as a whole, it is not going too far to say that it is unsurpassed, if it is equalled, in point of instructiveness all round by any one work within the present range of psychological literature. The pains taken by the author, during the last twenty years of his life, in bringing the *Grundriss* to the fully developed form of the *Lehrbuch* must have been enormous. While he adhered to the main lines of his original Herbartian scheme, his open-mindedness to the scientific results obtained upon all contemporary lines of investigation was absolute, and few escaped his attention. When the book in its new form lies completely before us, opportunity will be taken to speak of it more in detail—as, in the interest of comprehensive psychological study, should have been done long since.

FRIEDRICH UEBERWEG'S *Grundriss der Geschichte der Philosophie.* Drei Theile. Sechste, mit einem Philosophen u. Litteratoren-Register versehene Auflage, bearbeitet u. herausgegeben von Dr. MAX HEINZE, ordentl. Professor der Philosophie an der Universität Leipzig. Berlin: E. S. Mittler, 1880-1-3. Pp. ix., 336; viii., 295; viii., 503.

Ueberweg's *Grundriss*, which grew rapidly under his own hand from the years 1862-6, within which its different parts first appeared, till 1871 when his life was cut short, has since that time passed from fourth or third editions of its several parts to a sixth edition of them all, with extensions which the more call for mention because the English (or American) translation dates back to the years 1872-4. The book as a whole has been increased by a full half of its original size; such increase, first by the author himself and then by Professor Heinze, who is responsible for the later editions, being rendered the more easy by reason of the discontinuous manner of the exposition. Prof. Heinze's most notable contribution is the closing section of Part iii. entitled "The Philosophy of the Present," occupying in the latest edition some 90 pp., into which have passed the 30 pp. (or thereby) beyond which Ueberweg himself had not to the last gone upon this topic. So far as German philosophy is concerned, the result is—if not much that can be called history—a very exhaustive and useful bibliography for the last thirty or forty years; while for other countries as much, perhaps, has been done as the conditions could well admit of. But Prof. Heinze has also laboured to good purpose throughout the whole extent of the work, seeking everywhere to incorporate with Ueberweg's scheme the results of later investigation or to develop such parts of it as the author had hurried over. Thus, in the present edition, the Transition-period to Modern Philosophy, several of the most important Schoolmen and Patristic Thought generally have received fuller treatment; similar extension having been given, in the fifth edition, to the account of Plato's doctrine.

Geschichte der neuern Philosophie. Von KUNO FISCHER. Fünfter Band. Zweite vermehrte und revidirte Auflage. München: Fr. Bassermann, 1884. Pp. xxviii., 840.

The most important change in this revised and enlarged edition of the volume of Prof. Kuno Fischer's *Geschichte der neuern Philosophie* dealing with Fichte and his Predecessors, is that a new introduction of five chapters has been written in place of the single introductory chapter of the first book. These five chapters fill 112 of the more closely printed pages of the new edition, instead of the 30 of the corresponding chapter in the old edition.

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They constitute a critical defence of the Kantian philosophy in itself, as well as in its development. The whole work has been systematically revised, and alterations, in form at least, are to be met with on nearly every page. The headings of the sections have been re-written throughout and the paragraphs reorganised. A new arrangement of the contents of the last three chapters of the fourth book must be noted. The latter part of the 10th chapter of the first edition has been augmented by a fuller discussion of the development from the earlier to the later form of Fichte's doctrine, and made into a new chapter. The 12th and 13th chapters of the first edition have been combined with the 13th of the second, and in part re-written. Through all these changes in the form of his work the author's point of view remains essentially the same. He regards all modern German philosophy which does not give to itself a clear account of its relation to Kant and his successors as out of the true line of development. In Fichte he finds the successor of Kant as already interpreted and criticised by Reinhold, Ænesidemus, Salomon Maimon, Beck and Jacobi. The function of Reinhold historically was to bring out Kant's doctrine of the thing-in-itself in such a way that it might be clearly seen to be open to sceptical criticism such as that of Ænesidemus. Maimon got rid of the thing-in-itself outside consciousness, but retained it as an unknown cause of feeling. Beck showed that Kantianism must either become pure idealism or return to dogmatism. Finally, Jacobi restored realism, no longer as a dogma, however, but only as a belief. These positions are the general result of the first book on the development from Kant to Fichte. The second book, on "Fichte's Life and Writings," in its latter part (cc. vii.-xi.) deals with the philosophical ideas of his first period. The third is devoted to the "Wissenschaftslehre" as developed by Fichte in his second period, the fourth to the new form he gave to it in his later writings. Here again the author still holds the same position—that the development of Fichte's philosophy was consistent throughout. But he finds in that philosophy itself – and here also there is no change of view – a union of contradictory positions. Fichte's doctrine, he says, appears from different points of view as pantheism, as dualism, and as indeterminism. Hence it was capable of development in quite different directions. Not only is Fichte, in his view, the successor of Kant and the predecessor of Schelling and Hegel, but he has affinities with Jacobi and Schleiermacher (in his philosophy of religion), with Frederick Schlegel and the Romantic School (in his philosophy of art), and with Schopenhauer (in his view of the nature of will). Schopenhauer indeed, Prof. Fischer maintains, found his doctrine of Will in Fichte and concealed his obligations. The volume, in its present form, is inscribed to Prof. Zeller, in a dedication written on 22nd January last, when the illustrious historian of Greek Philosophy completed his 70th year.

Grundlinien zur Erforschung des Helligkeits- und Farbensinnes der Tiere. Von VITUS GRABER. Mit 4 Abbildungen. Prag: T. Tempsky; Leipzig: G. Freytag, 1884. Pp. viii., 322.

Die Geschichtliche Entwickelung des Farbensinnes. Eine psychologische Studie zur Entwickelungsgeschichte des Menschen. Von Dr. PHIL. RUDOLF HOCHEGGER. Innsbruck: Wagner, 1884. Pp. x., 134.

Dr. Graber's book is the outcome of a series of extremely minute and careful researches on the sensibility of animals selected from all the principal morphological groups to variations of intensity of light and to differences of colour. Most of the previous work on the subject seems to him too speculative. He makes this objection, for example, to Mr. Grant Allen's book on the development of the colour-sense. At the same time he admits that that book gave him the impulse to undertake the present series of

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researches. And in reply to his criticism, it may be said that Mr. Grant Allen's essay did not profess to be based on original research, but was an attempt to theorise on results already gained. Dr. Graber has now himself supplied abundant new material for speculation. His results are in opposition to the views of Dr. Magnus and Mr. Gladstone as to the development of the colour-sense during the historical period. He finds that reaction to differences of colour, instead of being exceptional, is almost universal among animals. His experiments on animals that had been blinded (*Triton cristatus*) and on animals without special organs of sight (*Blatta germanica*), prove that the power of reacting not only to differences of intensity of light but also to differences of colour belongs in the lower organisms to the whole skin, and that the reaction is almost as distinctly marked as in the case of animals with eyes. These experiments tend to support the "photo-chemical" theory that the sensations of light and colour depend on changes of composition undergone by the substance of the nerve-terminations under the influence of rays of different amplitude and wave-length. Dr. Graber has found that there are great differences in the character of the reactions of animals that differ little from one another morphologically.

Dr. Hochegger's study of "the historical development of the colour-sense" is less special in its scope than Dr. Graber's book. An account of the results of Dr. Graber's researches, which were published too late for the author to make use of them in working out his own view, appears in the notes at the end. Dr. Hochegger takes up a position similar to that of Professor Marty and Mr. Grant Allen in opposition to the theories of Mr. Gladstone and Dr. Magnus. He first shows that the sense of colour in itself, the power of judging the differences of colour, and the feeling for colour as pleasurable, painful or indifferent, may vary independently. In the Homeric colour-epithets he finds evidence of differences between the ancients and the moderns with respect to the emotional effects got by them from colour, but no evidence of any difference of discriminative sensibility. He argues from the results of ethnological investigations that uncivilised peoples are not (as Dr. Magnus concludes) less sensitive than civilised peoples to rays of shorter wave-length. Differences between the colour-vocabularies of different peoples are to be explained, not by different degrees of sensibility to colour, but by different degrees of intellectual development. Dr. Magnus's researches only disclose a philological law, not a law of development of the colour-sense.

Der Begriff der Physis in der Griechischen Philosophie. Von Dr. E. HARDY. Erster Theil. Berlin: Weidmann, 1884. Pp. iii., 229.

The object of this historical account of the conception of φύσις in Greek philosophy, from Thales to Aristotle, is not so much to trace the gradual development of the conception itself in the Greek mind as to show in what ways it successively took form in the minds of individual thinkers. The word φύσις may of course be taken to mean either the nature of things or human nature. Dr. Hardy first shows how the thoughts of the pre-Socratic philosophers were directed chiefly to external nature, to physical speculations in the special sense of the term; then he goes on to explain that, Socrates having directed men's minds to the study of their own nature, all the Socratic schools expressed conceptions of human nature as in its essence ethical; finally, in Aristotle he finds union of the two tendencies of Greek thought, and, as a consequence of this, the introduction of ethical conceptions into physics and of physical conceptions into ethics and politics. This is, of course, not unlike the kind of outline that is usually given of the history of Greek thought. The originality of Dr.

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Hardy's book consists in the careful analysis that is given of all the conceptions to which the word φύσις is applied, first in the fragments of the pre-Socratic philosophers, then in the *Memorabilia*, the Platonic dialogues and the works of Aristotle (each dialogue and treatise being considered separately). In his discussion of the dialogues, Dr. Hardy protests against the view that regards Plato merely as the author of the doctrine of Ideas, and which tries to find in each dialogue some element of a consistent system having that doctrine for its centre. He maintains, in opposition to this view, that much is to be gained by following the conception of φύσις through its various stages in the development of Plato's thought, without special reference to the doctrine of Ideas. The author's general summary of the results of the present volume is this :—Till the period of decline of Greek thought, along with Greek life generally, each philosophic system was the expression of a personality ; the conception of φύσις, having been taken by philosophers from among the most general conceptions already embodied in language, was found to be capable of development in quite different directions, and became for each thinker the expression of his own personality, of his individual φύσις ; after the loss of political freedom by the Greeks, the school became all-important, and the individual insignificant.

Gregorii Palamæ, Archiepiscopi Thessalonicensis Prosopopœia Animæ accusantis Corpus et Corporis se defendentis, cum judicio. Aureolum Libellum, Philologis, Philosophis et Theologis æque commendabilem, post Adr. Turnebum Græce denuo separatim editum emendavit, annotavit et Commentariolo instruxit ALBERTUS JAHNIUS, Bernas Helvetius, &c. Halis Saxonum : Sumptibus C. E. M. Pfeffer (R. Stricker), 1885. Pp. xii., 61.

The name of Gregory Palamas, Archbishop of Thessalonica (fl. 1350), is not familiar to students of the history of philosophy. Indeed his editor points out that in the most extensive histories of philosophy his philosophical works are not mentioned at all, though some reference is usually made to him as a theologian. The *Prosopopœia* has been reprinted before, being found both in the Greek and in a Latin translation in Migne's *Patrologiæ Cursus completus;*—but it is not easily accessible in a separate form. The present editor regards it as of so much importance both for "philologists, theologians, and philosophers" that he has carefully re-edited the Greek text and furnished it with Latin notes, a "Commentariolus" (pp. 42-55), and three "Epimetra" (pp. 56-61.) In the preface he quotes the favourable opinions of several distinguished writers on his author, among whose other merits it is specially mentioned that he "happily joins the moral principles of the Greek philosophers with the precepts of Christian ethics". The *Prosopopœia* is written in the form of a contention before judges between the soul and the body, followed by the decision of the judges. The soul accuses the body of being the cause of all sin. The body replies by first proving itself to be a perfectly efficient instrument for the soul to act upon to any end it chooses, and then proving that sin proceeds from bad government of it by the soul. Finally, in reply to what the soul says of its sufferings from the matter to which it is always attached, the body complains of the things it has had to endure from the violence of demons that enter into it and from the constant tyranny of souls whose desires are evil. The judges sum up strongly in favour of the body. The "rational soul" seems to them to have fallen unawares into the error of the Manichæans if it thinks it can do nothing good on account of the disobedience of the irrational part which is subordinate to it. They declare the superior soul to be responsible for all sin, just as the schoolmaster

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is responsible for want of discipline in his scholars and the general for anything that is done amiss by his army.

Gehirn und Bewusstsein. Physiologisch-psychologische Studie. Von Dr. RICHARD WAHLE. Wien: A. Hölder, 1884. Pp. 97.

In Part i. of this "physiologico-psychological study" the author maintains against the view of Du Bois-Reymond, who holds that consciousness although it cannot be explained mechanically may yet originate mechanically, that this last supposition is equally inadmissible with the first. He dismisses also the doctrine that mind and matter are opposite sides of the same reality. Matter—the extended world—is, he concludes, only a portion of consciousness. But material phenomena have a certain symbolic value. It is one of the objects of Part ii. to define this value in the case of the matter that is most directly related to consciousness, that is, the matter of the brain. By study of the mechanism of the brain, regarded as having a symbolic value, and by direct psychological study, the author seeks to discover a "universal law of association". He finds that actual states of consciousness are complex, and do not absolutely differ from one another, but are alike as to some of their parts. "This partial real likeness of the parts of the whole, with which a likeness of material sections of the whole material process can be co-ordinated," accounts for the fact that parts of those wholes can be replaced by others; and this power of like states of consciousness to replace one another explains association. Having rejected (in Part i.) the idea of a real external cause producing effects in consciousness, and consequently of a real subject receiving impressions, the author goes on, after dealing with association, to discuss in Part iii. the question whether there is any unity in consciousness itself by which particular occurrences are bound together. He finds that there is not. The world and consciousness may be reduced to collections of occurrences (Vorkommnisse) without unity in any philosophical sense. No real activity is to be discovered within consciousness any more than upon it from outside. "The Ego," "judgment," "comparison," &c., are merely names for certain groupings of "elementary occurrences," not "special phenomena or modes of relation of consciousness to an object". In looking into our thoughts, as in looking upon the clouds, we see in what manner they come and go, but not how they came into being. We should describe ourselves rather as "the place of thought and actions" than as really thinking and acting.

Metaphysik. Drei Bücher der Ontologie, Kosmologie u. Psychologie. Von HERMANN LOTZE. Zweite Auflage. Leipzig: S. Hirzel, 1884. Pp. 604.

Grundzüge der Psychologie. Dictate aus den Vorlesungen von HERMANN LOTZE. Dritte Auflage. Leipzig: S. Hirzel, 1884. Pp. 95.

Pending critical notice of Lotze's *Metaphysic* in English translation to follow upon review of the *Logic* in the present No., we note the appearance of the second edition of the original, five years after the first. Though no indication is given of the changes, Prof. Rehnisch, who has had charge of the works since Lotze's death, intimated some months ago, in a notice of the French translation of the *Metaphysik* mentioned in MIND XXXV. 475, that this had been found useful in clearing up the sense of the original at some points during preparation of the second edition.

A third edition of the Lecture-notes on Psychology first issued in 1881 has now been called for. They are again given as dictated in Lotze's last winter session, 1880-1, but with some minor alterations of interest—developments here and there of particular paragraphs.

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Specielle Physiologie des Embryo. Untersuchungen über die Lebenserscheinungen vor der Geburt. Von W. PREYER, o.ö. Prof. der Physiologie an der Universität Jena. Mit 9 lithographirten Tafeln und Holzschnitten im Text. Leipzig: Th. Grieben (Fernau), 1885. Pp. xii., 644.

The last of the four separately issued parts of this work having now appeared, it becomes possible to speak of it as a whole. It may be said that the author has done for the physiology of the embryo what Balfour did for the morphology in his *Handbook*. The section of the book that will be most interesting to psychologists is, of course, the account of the mobility and sensibility of the embryo. Some of the researches described here are closely connected with those on new-born children described in the author's previous work *Die Seele des Kindes*, to which he has frequently occasion to make reference. His most important general results are that mobility appears long before sensibility, and that the sense-organs and the parts of the nervous system connected with them are capable of functioning before it is at all likely that in normal embryonic life they have any proper functions to perform. By "mobility" is to be understood more especially the power of making spontaneous or "impulsive" movements. The presence of sensibility can only be proved by the existence of what is really a kind of mobility—that is, reflex mobility. When the appropriate reflex movements are obtained on stimulating the sense-organs it is inferred that the corresponding kind of sensibility is present. Reflex movements are not only later in appearing but can also be made to disappear more easily than impulsive movements. The movements that indicate sensibility can be suppressed (in the artificially extracted embryo of the rabbit) by applying chloroform to the skin, with more difficulty by causing chloroform to be breathed. In either case the anaesthesia passes off very rapidly. It is supposed that the chloroform in the first case acts directly, in the second case indirectly, on the nerves of the skin; that it only secondarily affects the spinal cord; and that it does not act at all on the brain. The movement of sensibility in the embryo gradually rises from its first appearance up to birth. In the embryo of the rabbit, the skin being irritated, two seconds may pass from the contact to the reaction. The occurrence of respiratory movements is dependent on the power already present of reflex movement in response to stimuli on the skin, not the power of reflex movement on respiration. Little has been ascertained with regard to the sense of temperature and the muscular sense; the fact that mobility is increased by warmth, diminished by cold, of course proves nothing as to the sense of temperature properly so-called. The human fœtus gives signs of having feelings of taste two months before birth. The whole complex of parts belonging to the ear is functionless before birth, as are also the parts of the eye: but the power of raising the eyelid is present; the eyes are not closed in the human embryo after the sixth month. The conditions for the organic feelings are present several weeks before birth; pleasure and pain can be distinguished. The author finally puts the question: What is the actual state of the embryo normally? He arrives by a series of arguments that seem pretty conclusive when taken together at the result, that its state is normally like dreamless sleep or like the state of a hibernating mammal; it does not wake up from this state before birth except momentarily, and then only when strongly stimulated.

Das Gefühlsleben. In seinen wesentlichsten Erscheinungen und Bezügen dargestellt. Von JOSEPH W. NAHLOWSKY. Zweite durchgesehene und verbesserte Auflage. Leipzig: Veit. Pp. xii., 193.

The first edition of this book was published in 1862; and since the

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appearance of the second edition of Prof. Bain's *Emotions and Will* (1865), the author's classification of feelings (on Herbartian principles) has been before English readers. The subtitle is now altered, by omission of the previous express reference to "practical points of view". The Introduction (pp. 3-36) is wholly recast, chiefly with the object of giving still greater precision to the scientific distinction he had made between *Empfindung* and *Gefühl*. For the rest the alterations in the text are confined to points of detail, being considerable only in the description of the feeling of Love. The author, in his new preface, draws attention to the increased amount of interest (since 1862) in Æsthetics as a science shown by the appearance of a number of important works, and selects for short discussion the views expressed in Zimmermann's *Allgemeine Æsthetik als Formwissenschaft* (1865) and in Köstlin's *Æsthetik* (1869) on the relation of form to content in works of art—in order to define here also his own position more precisely.

Die realistische und die idealistische Weltanschauung entwickelt an Kants Idealität von Zeit und Raum. Von E. LAST. Mit dem Portrait der Verfasserin. Leipzig: Th. Grieben (Fernau), 1884. Pp. xxiii., 259.

In Germany also, women are now joining in the philosophical movement. According to the authoress, who has previously devoted herself with success to the exposition of Kant and Schopenhauer's main doctrines in a work entitled *Mehr Licht!* the "realistic" view of the world is that which has expressed itself both in ancient and modern times as "materialism" or "naturalism". It is the first speculative result of the effort of man to comprehend the world as a whole. This view tends to express itself not only as a theoretical but also as a practical philosophy, and here its defects become manifest. Ideals in general and more especially moral ideals cannot be explained, even with the aid of the modern doctrine of evolution, as mere products of nature; on the contrary they are seen to be imposed on nature by man. The realistic view has, however, its advantages as promoting scientific research and improvement of the conditions of life. And the bad influence which it would exert if unchecked can be counteracted by bringing into relation with it the idealistic view and thus disclosing its theoretical weakness. The idealistic view has been expressed by Kant better than by any other philosopher. In Kant's doctrine of the ideality of space and time is to be found a refutation of the attempt to derive the human mind from nature as if "nature" were something known apart from the mind. Those, therefore, who wish to check the evil influence that might proceed from materialism unmodified by any other philosophy ought to devote themselves to making Kant's idealism better known.

Das Auswendiglernen und Auswendighersagen in physio-psychologischer, pædagogischer und sprachlicher Hinsicht. Von Dr. J. HOPPE. Hamburg u. Leipzig: L. Voss, 1883. Pp. 143.

In this little volume Dr. Hoppe discusses a subject of considerable psychological interest and practical value. In the process of learning by heart and repeating or giving out what is then learned we have raised in a very definite form the question how words are related to ideas, and further what is the precise nature of verbal images. The author (whose former work *Die Schein-Bewegungen* was noticed in MIND XVI.) appears to have had two main objects in view in his present monograph: (1) to contend against the mechanico-physiological theory that speaking is a reflex nervous process in which the mind takes no part; (2) to upset the view that the movements of articulation are attended with definite muscular feelings, the

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revival of which constitutes the essential element in our verbal images. He takes a rather optimistic view of the power of learning by heart, appearing to think that it is the natural tendency of the mind to dwell on ideas and not on the words which signify them. Speaking involves both a physiological mechanism and an activity of mind which somehow dwells in the cortical substance and sets the machinery going when it wills. The author's rather imaginative way of describing this cherub-sort of mind sitting aloft and keeping guard over the nervous mechanism, is perhaps not altogether conducive to scientific exactness. With respect to the precise nature of verbal images, he asserts that they are essentially auditory; that when we "think words" we are thinking of the articulate sounds; and that there are no such things as clear articulatory images, but only at best vague tactual representations of the various contacts (lip with lip, tongue with palate, &c.), involved in articulation. There is much re-iterated assertion to this effect, which the reader would gladly exchange for some more decisive references to fact. Here for example is a simple experiment which everybody can try. Choose a series of unmeaning sounds—say *pum*, *roch*, *crant*, &c. First, "think" or imagine these as mere sounds, carefully repressing any tendency to articulate. Repeat them thus internally several times, and then try to recall them after a few seconds. Then take this same series (or some equally meaningless one) and instead of merely thinking the sounds, execute the movement of the mouth involved in articulating them, yet without carrying out the respiratory process necessary to complete audible utterance. Do this repeatedly and then try, as in the other case, to recall the series after an interval. The difference in the distinctness of the verbal images in these two cases seems to point to the articulatory element's having a more important part to play in the representation of words than Dr. Hoppe admits. At the same time, he seems to be right in his main contention that the auditory image is, under normal circumstances, by far the more prominent element of consciousness. There is a brief reference at the close to the way in which the blind and deaf, as well as the simply deaf, have to speak, but this, interesting though it is, hardly appears to supply an adequate basis for the generalisations set up.

Grundtatsachen des Seelenlebens. Von Dr. THEODOR LIPPS, Privatdocent der Philosophie an der Universität Bonn. Bonn: Max Cohen, 1883. Pp. viii., 709.

By miscarriage, this extensive work, in which the author seeks to traverse the whole field of psychological science proper (avoiding, as far as possible, both metaphysical and physiological reference), failed to reach us at the time it was published, more than eighteen months ago. Only just received, it can at present be merely mentioned. It is laid out in six divisions: (1) Critical Preliminaries; (2) The most general Facts; (3) Flow of Presentations and *die Vorstellungsverhältnisse;* (4) Flow of Presentations and *die Vorstellungsbeziehungen;* (5) Blendings and Complications of Presentations; (6) Conation *(Streben).*

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RECEIVED also :—

M. D. Conway, *Farewell Discourses*, London, E. W. Allen, pp. 188.
C. Gill, *The Evolution of Christianity*, 2nd Ed., London, Williams & Norgate, pp. xcvi., 397.
J. McCosh, *Energy; Efficient and Final Cause*, Edinburgh, T. and T. Clark, pp. 55.
'Alchemist', *The Altruistic Act*, Montreal, *Witness* Printing House, pp. 12.
A. Young, *Destiny or Man's Will-Means and Will-Ends*, London, Houlston, pp. 21.
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NOTICE of some of these (received too late) is deferred till next No.

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VIII.—NOTES AND CORRESPONDENCE.

VERTIGO OF DIRECTION.

In my article on the "Rectification of Illusions" (MIND XXXIV.), I said a few words on the phenomenon called Vertigo of Direction, an affection that has been well described by Mr Henry Forde. It is a kind of seizure in which the sufferer is absolutely at fault as to the direction of the cardinal points, and continues in error after receiving indications that ought to set him right.

I expressed the opinion that this phenomenon was produced by an illusion of the senses, for illusion has not only to do with the existence of an exterior object, but has equally to do with the distance, direction, and space-relations of bodies. I asserted, further, that the special characteristic of this illusion of direction was to resist rectification by the senses, that is to say, the sight of known points fitted to give the exact bearings; and I concluded finally that this illusion, which no appeal to the senses and no reasoning could destroy, has the character of an *hallucination*. I am glad to be able to confirm these theoretical views by an experimental and clinical proof. The following account was written by a person who has been several times the victim of Vertigo of Direction. It is enough to read this description, which was drawn up with the greatest care, to see that it confirms in all points the theory I put forward.

The writer says—"I cannot better give an idea of what I experienced than by the following comparison:—Suppose you were in some place that you know perfectly well, such as your study, or the street in which you live; suppose that you shut your eyes for a second, and that in this short interval the external world about you turns round to the extent of two right angles on a vertical axis passing through your body, so that an object previously in front of you should be behind you, another placed on your right hand should be shifted to your left, and so on; suppose that in this rotation the external world should be displaced as a whole, and that the objects, notwithstanding their change of position in regard to you, should retain exactly their relations to one another; lastly, suppose that during this strange revolution you have not moved, but that, on the contrary, you have the firm conviction that you have been absolutely at rest. Now open your eyes and look around you, and fancy the feeling of bewilderment that would seize you, and you will have an idea of the impression I experienced when I was under the attack of what is called Vertigo of Direction.

"I experienced this strange phenomenon for the first time ten years ago, in circumstances that are still present to my mind, in spite of the time that has elapsed. It was at Neuilly, near Paris. I had gone to hear a lecture at the Mairie of Neuilly, a place I did not know; and on returning, in the Avenue de Neuilly, I saw on my left hand the Arc de Triomphe de l'Étoile, and on my right, at the other end of the avenue, the Pont de Neuilly. It seemed to me, without my being able to explain it to myself, that the Arc de Triomphe was in the direction opposite to that which it ought to occupy, and that the Pont de Neuilly had equally changed its place. This illusion was so powerful that I should have certainly bent my steps towards the Arc de Triomphe to return to my home in Neuilly if the people with me had not several times assured me that I was wrong. What a curious conflict of contrary appearances! It seemed to me impossible that such a

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monument as the Arc de Triomphe should have suddenly changed its position, as happens in fairy-tales, and yet I persisted in believing that it was not in the same direction as it was in some hours before. I was as if in a dream, in which absurd things are seen to happen, and in which the half-awakened critical sense protests against the apparent evidence of the eyes. The first moment of surprise over, emotion grew upon me ; it is always in this order that the phenomena manifest themselves—surprise at first and then a feeling of uneasiness and trouble. Happily, I felt that as I drew nearer to Neuilly, the illusion diminished gradually, and that at the end of about ten minutes no trace of it remained. When the illusion was completely destroyed I vainly tried to reproduce it in the imagination. I have seen the same thing recur on the Boulevards, and in other places besides. I very distinctly remember how twice at the Louvre, having placed myself at one of the windows that look upon the quay of the Seine, I felt the same illusion recur. It seemed to me that the Seine, which my eyes saw flowing before me from left to right, ought on the contrary to flow from right to left, and that its course was inverted. Now, it is perhaps important to observe, that I have never tried to take my bearings in the vast museum where I always lose sense of direction when I enter. The last occasion that I remember was as follows :—I used at one time to go every day to the Rue Lhomond, by the Rue Soufflot, the Place du Panthéon, &c. One day, having set out from a different place, I tried to regain my accustomed road by some cross-streets that I did not know. I described a semicircle whilst I thought I was going in a straight line. When I reached the Rue Soufflot, I had the same impression of bewilderment already described but, being now familiar with the phenomenon, I did not yield to it and, although I was alone, I took the right way. Since then the illusion has never returned, or if it has, it has been so fleeting and weak that it passed unperceived."

Two other persons whom I have questioned have told me that they have had a similar experience, and have described it to me in almost the same terms. It is probable that this phenomenon is not uncommon ; it exists in many people in a nascent state ; its existence is only recognised if special circumstances afford it development. It is a rule with pathologists that to understand imperfect forms, complete forms, the classic type should be known. I hope that, in reading the very full description of Vertigo of Direction that I have just transcribed, more than one person may recognise impressions that have been more or less sharply experienced. The primary condition of the phenomenon seems to be a loss of the sense of direction ; this the writer has clearly indicated in relation to his visits to the Louvre, and still more clearly in regard to what occurred in the Rue Soufflot. The phenomenon begins with a false notion as to the direction of the cardinal points—an illusion of direction. Then the subject obtains a known landmark, the quay of the Seine, the Rue Soufflot, &c. At this moment the illusion should be rectified and new bearings taken. This would be the phenomenon of normal rectification ; but here the rectification is not made ; in spite of the evidence of the senses the error persists. The contradiction springing up between the senses and the judgment is, however, seen, and the pain which the discovery causes perfectly explains the nervous state accompanying the phenomenon. I therefore think that Vertigo of Direction is an illusion which withstands rectification by the senses—that is to say, an hallucination. This explanation, which only brings in known laws and phenomena, seems to me superior to the solution proposed by M. Viguier, according to whom the notion of direction is produced by a magnetic sense and Vertigo of Direction results from a passing obscuration of this sense.

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It would be interesting to determine exactly the physiological conditions of Vertigo of Direction; but we have little information on this point, and are reduced to conjectures. I will limit myself to the following remark: from the moment that Vertigo of Direction becomes an hallucination, it is plain that it is a pathological phenomenon, which requires a suitable soil for its production. Hallucinations do not come at will. Prof. G. H. Darwin in his note on the subject merely mentions that the persons affected by the vertigo were *weakly and aged.* Mr. Forde speaks of American sportsmen struck by vertigo in their excursions; it is probable that fatigue and want of food count for something in the manifestation of the phenomenon, although the author has not thought of this side of the question. The person from whom I received the above account, seemed convinced that the vertigo was in him coincident with the *commencement of an anæmia,* and was equally convinced that the return of these painful occurrences is prevented by the perfect health that he now enjoys.

ALFRED BINET.

Professor Carl Stumpf (who has just exchanged his chair at Prague for one at Halle) writes, with reference to a remark in Mr. Sully's Critical Notice of his *Tonpsychologie* I. in the last No. of MIND, that he is not unacquainted with Mr. Gurney's *Power of Sound* and will take due account of it in his third volume. He regrets having overlooked the observations at p. 140 of Mr. Gurney's work bearing on the subject of Pitch discussed in his first volume.

The Aristotelian Society for the Systematic Study of Philosophy.—Mr. Edward Hawksley Rhodes has been elected Hon. Secretary and Treasurer, and Mr. H. W. Carr a Vice-President. The Sixth Session was opened on October 20th by the usual Address from the President, this year's subject being "The Relation of Philosophy to Science, Physical and Psychological". The study of Schopenhauer's *World as Will and Idea* was introduced on November 3rd by Mr. R. B. Haldane, one of the English translators of the work, and continued on November 17 by a paper from Mr. H. W. Carr. A discussion followed on both occasions. On December 1 a paper "On the Function of Cognition," contributed by Prof W. James of Harvard, a Corresponding Member, was read and discussed.

'Scotus Novanticus,' author of *Metaphysica nova et vetusta* has another work in the press to be entitled *Ethica, or the Ethics of Reason.*

The Philosophical Society of Berlin renews, in altered form, an announcement which it made three years ago (see MIND XXV. 157). A prize of 750 Reichsmark (£37 10s.) is now offered, instead of 450, for the best "Historico-critical Exposition of Hegel's Dialectic Method," and the time of competition is extended to 31st December, 1886. The conditions otherwise remain as previously announced, in a program that may be obtained from Dr. Ascherson, University Library, Berlin.

M. Renouvier's weekly journal, *La Critique Philosophique,* now completing its thirteenth year, will become a monthly review from the 1st of February next, each number to contain five sheets. *La Critique religieuse,* issued for some years back as a three-monthly supplement, for the free discussion of questions in religious criticism and philosophy, will be discontinued; religious topics being henceforth to be included in the monthly review and treated in the spirit of the "criticist" doctrine. Subscribers for 1885 will receive, in monthly supplements, the remainder of the *Esquisse d'une Classification systématique des Doctrines philosophiques* which M. Renouvier has been issuing in *La Critique religieuse* since 1882;

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also, in March, a complete alphabetical Index to the twenty-six half-yearly volumes of *La Critique philosophique*, the expense of producing which has been mainly borne by a New York reader of the journal.

A career of great promise that was passing rapidly into performance has been cut short by the death of the Rev. Edwin Wallace at Davos-Platz on the 6th October last. Younger brother of Professor W. Wallace of Oxford, he was born at Cupar-Fife on 25th October, 1848. From St. Andrews University, where he spent three sessions, he proceeded in 1867 to Oxford, entering first at Balliol College and passing to Lincoln on being elected to a scholarship there in 1868. In June, 1871, he won a First Class in the School of Literae Humaniores, and later in the same year was elected a Fellow of Worcester College. Almost immediately he was appointed Tutor in the College and continued to hold this post till his death, being occupied with Logic and Philosophy, besides the common work of Classics; he also was for some time Dean or chief disciplinary officer. Taking orders in 1880, he acted for some time as unpaid curate in the village of South Hincksey; in 1881, he married. Meanwhile he had begun literary work, contributing to the *Westminster Review* an article on "The Philosophy of Pessimism," in 1876, and for some years afterwards the quarterly survey of philosophical literature; he also wrote frequently in the *Academy*. In 1875, he had published for the use of his pupils, *Outlines of the Philosophy of Aristotle;* this piece was republished at Oxford in 1880 in enlarged form, and again with still farther additions at Cambridge in 1883. A much more ambitious work was his *Aristotle's Psychology* (Cambridge, 1882)—an edition of Aristotle's *De Anima*, with Introduction, parallel Translation and Notes (reviewed at length in MIND XXVIII.). No ordinary man could have undertaken such a task, and the merit of his achievement has been widely recognised; his old university, St. Andrews, shortly afterwards conferred on him the degree of LL.D. Unfortunately, in 1883, the severe labour he had undergone began to show itself in enfeebled health. He spent a winter at Davos and seemed to recover ground, but after some months in England he had hardly returned to Davos for a second winter when he suddenly died.

Mr. H. Spencer, being recently again set down as a disciple of Comte, has been moved to republish in separate pamphlet form (Williams & Norgate, pp. 26) the *Reasons for dissenting from the Philosophy of M. Comte*, in reply to M. Laugel, which he added in 1864 to his *Classification of the Sciences*. In an Appendix (4 pp.) he also reproduces, with some remarks, a succinct statement of the cardinal principles developed in his successive works, which he wrote for an American friend some fourteen years ago, and first printed in the *Athenæum* of July 22nd, 1882, on occasion of another misrepresentation.

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Zeitschrift für Philosophie, &c.—Bd. LXXXV., Heft 2. H. Fischer—Lessing's Philosophie (ii.). R. Wahl—Prof. Bilfinger's monadologie u. prästabilirte Harmonie in ihrem Verhältniss zu Leibniz u. Wolf (ii.). G. H. Schneider—Die psychologische Ursache der Contrast-Erscheinungen (Schluss). G. Neudecker—Der Satz vom Widerspruch' kein "Naturgesetz" unsres Denkens. H. Bender—Die Substanz als Ding an sich. E. König—Ueber den Begriff der Objektivität bei Wolf u. Lambert mit Beziehung auf Kant. Neu eingegangene Schriften. Bibliographie.

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Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. XV., Heft 3, 4. V. Kaiser—Der Platonismus Michelangelos (i.). G. Simmel—Dantes Psychologie (Schluss). Herbert Baynes—Die psychologische Methode in ihrer Anwendung auf die Sprache. A. F. Pott—Verschiedene Bezeichnung des Perfects in einigen Sprachen u. Lautsymbolik (i.). E. Wohlwill—Die Entdeckung des Beharrungsgesetzes (Schluss). O. Erdmann — Zur geschichtlichen Betrachtung der deutschen Syntax. K. Bruchmann —Der Buddhismus; mit Rücksicht auf H. Oldenberg u. H. Kern. F. Misteli—Miscellen. H. Steinthal—Aus Frankreich. Das Denkmal der Gebrüder Grimm.

Vierteljahrsschrift für wissenschaftliche Philosophie. — Bd. VIII., Heft 4. F. Poske—Der empirische Ursprung u. die Allgemeingültigkeit des Beharrungsgesetzes. W. Wundt—Bemerkung zu vorstehendem Anfsatze. R. v. Schubert-Soldern—Der Gegenstand der Psychologie u. das Bewusstsein. G. Heymans—Zurechnung u. Vergeltung (Schluss). A. Marty—Ueber Sprachreflex, Nativismus u. absichtliche Sprachbildung (i.). E. Laas—Neuere Untersuchungen über Protagoras. Anzeigen, &c.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—HALLUCINATIONS.

By Edmund Gurney.

1. *Definition.*

Is it possible to treat Hallucinations as a single class of phenomena, marked out by definite characteristics? The popular answer would no doubt be Yes—that the distinguishing characteristic is some sort of false belief. But this is an error: in many of the best known cases of hallucination—that of Nicolai for instance—the percipient has held, with respect to the figures that he saw or the voices that he heard, not a false but a true belief, to wit, that they did not correspond to any external reality. The only sort of hallucination which is necessarily characterised by false belief is the purely non-sensory sort—as where a person has a fixed idea that everyone is plotting against him, or that he is being secretly mesmerised from a distance. Of hallucinations of the *senses*, belief in their reality, though a frequent, is by no means an essential feature; a *tendency* to deceive is all that we can safely predicate of them.

If we seek for some further quality which shall be distinctive of both sensory and non-sensory hallucinations, the most hopeful suggestion would seem to be that both sorts

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are *idiosyncratic and unshared*. However false a belief may be, we do not call it a hallucination if it has "been in the air," and has arisen in a natural way in a plurality of minds. This is just what an *idée fixe* of the kind above mentioned never does: A may imagine that the world is plotting against him; but B, if he spontaneously evolves a similar notion, will imagine that the world is plotting not against A, but against himself. Instances, however, are not wanting where the *idée fixe* of an insane person has gradually infected an associate [1]; and as contact between mind and mind is, after all, the "natural way" of spreading ideas, we can make no scientific distinction between these cases and those where, *e.g.*, the leader of a sect has instilled delusive notions into a number of (technically) sane followers. But again, hallucinations of the *senses* are also occasionally shared by several persons. Most of the alleged instances of this phenomenon are, no doubt, merely cases of *collective illusion*—an agreement in the misinterpretation of sensory signs produced by a real external object; but, as the result of wide inquiries, I have encountered several instances of genuine and spontaneous *collective hallucination*. If, then, sensory and non-sensory hallucinations agree in being as a rule unshared, they agree also in presenting marked exceptions to the rule; which exceptions, in the sensory species, are of a peculiarly inexplicable kind. The conclusion does not seem favourable to our chance of obtaining a neat general definition which will embrace the two species; and, in abandoning the search for one, I can only point, with envy, to the convenient way in which French writers are enabled not to combine but to keep them apart, by appropriating to the non-sensory class the words *délire* and *conception délirante*.

Let us then try to fix the character of *hallucinations of the senses* independently. The most comprehensive view is that *all* our instinctive judgments of visual, auditory and tactile phenomena are hallucinations, inasmuch as what is really nothing more than an affection of ourselves is instantly interpreted by us as an external object. In immediate perception, what we thus objectify is present sensation; in mental pictures, what we objectify is remembered or represented sensation. This is the view which has been worked out very ingeniously, and for psychological purposes very effec-

[1] See Dr. G. H. Savage's Note on the "Contagiousness of Delusions," in the *Journal of Mental Science*, Jan. 1881, p. 563; and the paper on "Folie à Deux," by Dr. Marandon de Montyel, in the *Ann. Médico-psych.*, 6th series, vol. v., p. 28.

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tively, by M. Taine;[1] but it is better adapted to a general theory of sensation than to a theory of hallucinations as such. To adopt it here would drive us to describe the diseased Nicolai—when he saw phantoms in the room but had his mind specially directed to the fact that they were internally caused—as *less* hallucinated than a healthy person in the unreflective exercise of normal vision. I prefer to keep to the ordinary language which would describe Nicolai's phantoms as the real specific case of hallucination. And I should consider their distinctive characteristic to be something quite apart from the question whether or not they were actually mistaken for real figures—namely, their marked resemblance to real figures, and the consequent necessity for the exercise of memory and reflection to prevent so mistaking them. The definition of a sensory hallucination would thus be *a percept which lacks, but which can only by distinct reflection be recognised as lacking, the objective basis which it suggests*—where *objective basis* is to be taken as a short way of naming the possibility of being shared by all persons with normal senses.[2] It may be objected that this definition would include illusions. The objection could be obviated at the cost of a little clumsiness; but it seems sufficient to observe that illusions are merely the sprinkling of fragments of genuine hallucination on a background of true perception. And the definition seems otherwise satisfactory. For while it clearly separates hallucinations from *true perceptions*, it equally clearly separates them from the phenomena with which they have been perpetually identified—the remembered images or *mental pictures* which are not perceptions at all.[3] It serves for instance to distinguish, on the lines of

[1] *De l'Intelligence*, p. 408, &c.

[2] I have indeed referred above to *collective* hallucinations; but they may fairly be excluded here, not merely because they are very exceptional, but because it is a nice question for Idealism to determine how far, or in what sense, they lack an objective basis. To put an extreme case: suppose all the seeing world, save one individual, had a visual percept, the object of which nevertheless eluded all physical tests. Would the solitary individual be justified in saying that all the others were victims of a subjective delusion? And if he said so, would they agree with him?

[3] M. Taine's definition and mode of treatment become unsatisfactory here. Regarding perceptions as in essence hallucinations, he naturally regards mental images—since they are the shadowy representatives of former perceptions—as hallucinations *of an embryonic sort*. This metaphor commits him to showing how the embryo may develop into the full product—which will happen if the mental image be then and there externalised, as is often the case in delirium. The result of this transformation is inevitably a *false* hallucination; and a special connexion is thus suggested

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common sense and common language, between the images of "day-dreams" and those of night-dreams. In both cases vivid images arise, to which no objective reality corresponds; and in neither case is any distinct process of reflection applied to the discovery of this fact. But the self-evoked waking-vision is excluded from the class of hallucinations, as above defined, by the point that its lack of objective basis can be and is recognised *without* any such process of reflection. We have not, like Nicolai, to consider and remember, before we can decide that the friends whose faces we picture are not really in the room. We *feel* that our mind is active and not merely receptive—that it is the mind's eye and not the bodily sense which is at work; without attending to this fact, we have it as part of our whole conscious state. Dreams on the other hand are, as a rule, pure cases of hallucination, forcing themselves on us whether we will or no, and with an impression of objective reality which is uncontradicted by any knowledge, reflective or instinctive, that they are the creatures of our brain.

But, though our definition may be sufficient for mere purposes of classification, it takes us but a very little way towards understanding the real nature of the phenomena. It says nothing of their origin and, though it distinguishes them from mere normal acts of imagination or memory, it leaves quite undetermined the faculty or faculties actually concerned in them. And when we pass on to these further points, we find ourselves in a most perplexed field, where doctors seem to be as much at variance as philosophers. The debate, most ardently carried on in France, has produced a multitude of views; but not one of the rival theorists seems ever to have convinced any of the others. Still progress has been made, to this extent at any rate, that it is now comparatively easy to see where the disputed points lie, and to attack them with precision.

2. *The Dual Nature of Hallucinations.*

It was of course evident from the first that there was a certain duality of nature in hallucinations. In popular language, the *mind* and the *sense* were both plainly involved:

between mental images and one particular sort of percept, namely the *incorrect* sort. But in ordinary experience, mental images are of course far more closely and constantly connected with *correct* percepts, M. Taine's *true* hallucinations, whose relics and representatives they are, than with *false* hallucinations, into which not one in a million of them is ever transformed.

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the hallucinated person not only *imagined* such and such a thing, but imagined that he *saw* such and such a thing. But in the early days of the controversy, the attempts at analysing the *ideational* and the *sensory* elements were of a very crude sort. The state of hallucination used to be treated as one in which ideas and memories—while remaining ideas and memories and not sensations—owing to exceptional vividness took on the character of sensations. It was not clearly realised or remembered that sensations have no existence except as *mental* facts; and that, so far as a mental fact takes on the character of a sensation, it *is* a sensation. This was clearly stated, as a matter of personal experience, by Burdach and Müller; in the French discussions, the merit of bringing out the point with new force and emphasis belongs to Baillarger.[1] He showed that when the hallucinated person says "I see so and so," "I hear so and so," the words are literally true. If the person goes on to say "*You* ought also to see or hear it," he is of course wrong; but when he says that *he* sees or hears it, his statement is to be taken without reserve. To *him*, the experience is not something like or related to the experience of perceiving a real external object: it is *identical* with that experience. To the psychology of our day this may seem a tolerably evident truth. Still it is easy to realise the difficulty that was long felt in admitting that any experience that was dissociated from the normal functions of the sense-organs could be completely sensory in character. Popular thought fails to see that the physical question which for practical purposes is all-important—whether the object is or is not really there—is psychically irrelevant; and a man who has been staring at the sun will, as a rule, think it less accurate to say that he *sees* a luminous disc wherever he looks than to say that he *fancies* it. The best corrective to such a prejudice is Delbœuf's experiment, which—though doubt-

[1] In the long and rather barren debates which took place in the *Société Médico-psychologique* during 1855 and 1856, Baillarger, no doubt, insisted too strongly on an absolute gulf between percepts (true or false) and the ordinary images of fancy or memory. But his opponents made a far more serious mistake in so far identifying the two as not to perceive a difference of *kind*, at the point where the sensory element in the mental fact reaches such abnormal strength as to suggest the real presence of the object. Griesinger's statement (*Ment. Path. and Ther.*, p. 89) and Wundt's (*Phys. Psych.*, vol. ii., p. 353) seem too unguarded in the same respect. As long ago as 1832, the late Dr. Symonds, of Bristol, drew exactly the right distinction between images and hallucinations (Lecture reprinted in *Miscellanies*, p. 241).

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less familiar to readers of this Journal—it will be convenient briefly to set forth, for the sake of subsequent reference.

Two small slits are made in a shutter, and one of them is filled with a piece of red glass. The opposite wall is therefore lit by a mixture of white and red light. A stick is now placed across the red slit; its shadow is of course cast on the wall; the part of the wall occupied by the shadow, though illuminated only by *white* rays from the other slit, appears—owing to the optical law of contrast — a bright green.[1] Let this shadow now be looked at through a narrow tube, which prevents any part of the wall external to the shadow from being seen. Nothing red is now in the spectator's view, so that there can be no effect of contrast: the red glass may even be removed; none but white rays are passing to his eye from the shadow; yet its colour remains green. And in this case the chances are that, unless previously warned, he will tell the exact truth; he will admit, and even persist, that what he sees is green. He will scout the idea that the green is a mere memory of what he saw before he applied the tube; he will assert that it is presented to him as an immediate fact. And such is assuredly the state of the case; but it is a state which, from the moment that he has put the tube to his eye, is kept up purely as a hallucination, and without regard to the facts of the external world. The delusion is of course instantly dispelled by the removal of the tube—when he perceives that the only light in the room is white, and that the shadow is

[1] Wundt (*Phys. Psych.*, vol. i., p. 463) has described some experiments, on the analogy of which it seems to me that this first result should be explained. I at any rate cannot concur with Delbœuf's explanation of it, which M. Binet adopts. According to them, it is due to two things: to the fact that the rays which pass from the shadow to the spectator's eye are really grey; and to the spectator's knowledge of the further fact that the only colour which, seen through red light, looks grey, is green. They hold then that the sensation, though of grey, excites through association an image of green. To this there seem to be three objections. (1) Not one person in twenty possesses the supposed piece of knowledge. (2) Even for one who does possess it, the moments in his life during which he has had experience of the fact that green seen through red light looks grey, are surely not sufficiently striking or numerous to have established an instinctive and inseparable association between the sensation of grey, occurring in a place where red light prevails, and the idea of green. (3) Even if this inseparable association could be conceived possible, one fails to see why the result should be the transformation, in the spectator's consciousness, of the *idea* green into (what at any rate seems to him to be) the *sensation* green; that being the very sensation which, in the supposed moments of experience, has been conspicuous by its absence. On Delbœuf's theory, the lawn seen through red glass ought not only to excite the idea of green (which it perhaps may do), but to *look* green.

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grey; but for all that he will probably never doubt again that a genuine hallucination of the senses is something more than "mere fancy".

It is impossible to be too particular on this point: for high authorities, even in the present day, are found to contest it. When a person who habitually speaks the truth, and who is not colour-blind, looks at an object and says "My sensation is green," they contradict him, and tell him that however much he *sees* green, his sensation is *grey*. Whether this be a mere misuse of language, or (as it seems to me) a misconception of facts, it at any rate renders impossible any agreement as to the theory of hallucinations. For it ignores the very point of Baillarger's contention—that images sufficiently vivid to be confounded with sensory percepts *have become* sensory percepts.

When once the truth of this contention is perceived, it is also perceived that the previous speculations had been largely directed to a wrong issue; and that the *dual* character of a false perception is after all no other than that of a true perception. A hallucination, like an ordinary percept, is composed of present sensations, and of images which are the relics of past sensations. If I see the figure of a man, then—alike if there be a man there and if there be no man there—my experience consists of certain visual sensations, compounded with a variety of muscular and tactile images, which represent to me properties of resistance, weight, and distance; and also with more remote and complex images, which enable me to refer the object to the class *man*, and to compare this specimen of the class with others whose appearance I can recall. If Baillarger did not carry out his view of hallucinations to this length, the whole development exists by implication in the term by which he described them—*psycho-sensorial*. The particular word was perhaps an unfortunate one; since it suggests (as M. Binet has pointed out) that the psychical element is related to the sensorial somewhat as the soul to the body; and so, either that psychical events are independent of physical conditions, or that sensations are not psychical events. *Ideo-sensational* would avoid this difficulty; but the obverse term which M. Binet proposes—*cerebro-sensorial*—is on the whole to be preferred. For this brings us at once to the *physical* ground where alone the next part of the inquiry can be profitably pursued—the inquiry into *origin*. From the standpoint of to-day, one readily perceives how much more definite and tangible the problems were certain to become, as soon as they were translated into physiological terms. So far as the

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controversy had been conducted on a purely psychological basis, it had been singularly barren. In the vague unlocalised use, "the senses" and other ever recurring terms become sources of dread to the reader. But as soon as it is asked, where is the local seat of the abnormal occurrence? and on what particular physical conditions does it depend? lines of experiment and observation at once suggest themselves, and the phenomena fall into distinct groups.

3. *The question of Central or Peripheral Origin: difference between Creation and Excitation.*

In its first form, the question is one between *central* and *peripheral* origin. Do hallucinations originate in the brain—in the central mechanism of perception? or in some immediate condition of the eye, or of the ear, or of other parts? or is there possibly some joint mode of origin?

For a long time the hypothesis of an exclusively central origin was much in the ascendant. But this was greatly because—as already noted—Esquirol and the older writers did not recognise the sensory element as truly and literally sensation, but regarded the whole experience as simply a very vivid idea or memory. If the central origin is to be established it must be by something better than arbitrary psychological distinctions. Hibbert and Ferriar, going to the other extreme, contended that the memory was a *retinal* one; if a man *sees* what is not there, they held, it can only be by a direct recrudescence of past feeling in his retina. "But," urged Esquirol, "the *blind* can have hallucinations of vision; the *deaf* can have hallucinations of hearing; how can these originate in the peripheral organs?" The obvious answer, that this did not necessarily thrust the point of origin back as far as the cerebrum, does not seem to have been forthcoming; and the opposite party preferred to fall back on definite experiment. They pointed out, for instance, that visual hallucinations often vanish when the eyes are closed; or (as Brewster first observed) that they may be doubled by pressing one eyeball. But though there was enough here to suggest that the external organs *participated* in the process, there was no proof that they *originated* it, even in these particular cases; while for other cases the observations did not hold. An immense advance was made by Baillarger, who maintained the central origin by really scientific arguments. He pointed out (1) that the external organ may often be affected by local irritants—inflammation, blows, pressure, galvanism—without the production of any more pronounced

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form of hallucination than flashes, or hummings; that is to say, the peripheral stimulation fails to develop hallucination, even under the most favourable conditions: (2) that there is a frequent correspondence of hallucinations of different senses—a man who sees the devil also hears his voice, and smells sulphur—and that it is impossible to refer this correspondence to abnormalities of the eye, ear and nose, occurring by accident at the same moment: (3) that hallucinations often refer to dominant ideas—a religious monomaniac will see imaginary saints and angels, not imaginary trees and houses. Hence, argued Baillarger, "the point of departure of hallucinations" is always "the intelligence"—the imagination and memory—which sets the sensory machinery in motion. He naïvely admitted that how this action of an immaterial principle on the physical apparatus takes place passes all conception; but it might be forgiven to a medical man, writing forty years ago, if he had not fully realised "brain as an organ of mind," and so did not see that what he took for a special puzzle in the theory of hallucinations, is simply the fundamental puzzle involved in every mental act. Passing him this, we may say that his treatment of the question entitles him to the credit of the *second* great discovery about hallucinations. He had already made clear their genuinely sensory quality; he now made equally clear the fact that the mind (or its physical correlate) is their creator—that they are brain-products projected from within outwards.

This is a most important truth; but it is very far from being the whole truth. Baillarger saw no *via media* between the theory which he rejected—that the nerves of sense convey to the brain impressions which are there perceived as the phantasmal object—and the theory which he propounded, that "the intelligence" (*i.e.*, for us, the brain, as the seat of memories and images) of its own accord, and without any impulse from the periphery, excites the sensory apparatus. It seems never to have struck him that there may be cases where the sense-organ supplies the *excitant*, though the brain is the *creator*—that irritation passing from without inwards may be a means of setting in motion the creative activity. He took into account certain states of the organ—*e.g.*, fatigue produced by previous exercise—as increasing the susceptibility to excitation from "the intelligence," and so as conditions favourable to hallucination; but he got no further.

The facts of hallucination absolutely refuse to lend themselves to this indiscriminate treatment. Following the path

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of experiment, we are almost immediately confronted with *two* classes of phenomena, and *two* modes of excitation. We need not go, indeed, beyond the elementary instances already mentioned. Delbœuf's experiment, where green was seen by an eye on which only white rays were falling, fairly illustrates Baillarger's doctrine—the green being produced not by an outer affection of the eye, but by an inner affection of the brain. But in the case of a person who has been staring at the sun, the "after-image" or hallucination can be clearly traced to a continuing local effect in that small area of the retina which has just been abnormally excited; and it will continue to present itself wherever the eye may turn, until rest has restored this area to its normal condition. A still simpler form of change in the external organ is a blow on the eye; and the resulting "sparks" are genuine though embryonic hallucinations.

Such cases as these last are, however, hardly typical; for in them the brain is not truly creative; it merely gives the inevitable response to the stimuli that reach it from below. They are moreover *normal* experiences, in the sense that they would occur similarly to all persons with normal eyes. Let us then take another instance, where the mind's creative *rôle* is fully apparent, while at the same time the primary excitation is clearly not central. Certain hallucinations—as is well known—are *uni-lateral, i.e.*, are perceived when (say) the right eye or ear is acting, but cease when that action is obstructed, though the left eye or ear is still free. Now this in itself could not be taken, as some take it,[1] for a proof that the exciting cause was not central; it might be a lesion affecting one side of the brain. But very commonly, in these cases, a distinct lesion is found in the particular eye or ear on whose activity the hallucination depends;[2] and it is then natural to conclude that the hallucination was the result of the lesion, and that the one-sidedness of the one depended on the one-sidedness of the other. The justice of the conclusion has been proved in many cases by the fact that the hallucination has ceased when the local lesion has been cured. Other cases which strongly suggest a morbid condition of the external organ are those where the imaginary figure moves in accordance with the movements of the eye.

[1] Dr. Régis in *L'Encéphale*, 1881, p. 51; Prof. Ball in *L'Encéphale*, 1882, p. 5.

[2] Dr. Régis in *L'Encéphale*, 1881, p. 46; M. Voisin in the *Bulletin de Therapeutique*, vol. xxxix.; Dr. Despine, *Psychologie Naturelle*, vol. ii., p. 29; Krafft-Ebing, *Die Sinnesdelirien*, p. 25.

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The visual hallucinations of the blind, and the auditory hallucinations of the deaf, would also naturally be referred to the same class—the seat of excitation being then, not necessarily the external organ itself, but some point on the nervous path from the organ to the brain. In the case, for instance, of a partly-atrophied nerve, the morbid excitation would be at the most external point where vital function continued.[1] It should be noted, in passing, that a distinct lesion, *e.g.*, atrophy of the globe, of *one* eye may give rise to *bilateral* hallucinations (*Vienna Asylum Report*, 1858), or to unilateral hallucinations of the *sound* eye—the latter being no doubt affected directly by the brain.

4. *External Excitation of Hallucinations.*

But we may now proceed a step further. The excitation may be external not only in the sense of coming from the external organ, but in the sense of coming from the external world. It may be due not to any abnormality of the eye or the nerve, but to the ordinary stimulus of light-rays from real objects. M. Binet is the first who has given the complete evidence for this fact, accompanied by a scientific explanation of it;[2] and in so doing, he has made a contribution to the learning of the subject second in importance only to that of Baillarger.

M. Binet's experiments were conducted on five hypnotised girls at the Salpétrière, who could be made to see anything that was suggested to them; and also on an insane woman at St. Anne, who had a standing visual hallucination of her own. The experiments may be divided into two sets—those conducted with, and those conducted without, special optical apparatus. The results of both sets confirmed the rule first enunciated by M. Féré—that "the imaginary object is perceived under the same conditions as a real one"; but to this M. Binet adds the further conclusion, that a sensation de-

[1] Delusions due to visceral disturbances are often quoted as cases of hallucination excited from parts below the brain. Thus a woman dying of peritonitis declares that an ecclesiastical conclave is being held inside her (Esquirol, *Maladies Mentales*, vol. i., p. 211). But here there is a prior and independent basis of distinct sensation; so that the experience would at most be an illusion. And it is hardly even that; for one cannot say that the false object is sensorially presented at all; no one knows what a conclave in such a locality would actually feel like; the conclave is merely a *delire*—an imagination suggested by sensation, but which does not itself take a sensory form.

[2] In the *Revue Philosophique*, April and May, 1884.

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rived from a *real* external source, occupying the same position in space as the imaginary object seemed to occupy, was an indispensable factor of the hallucination. The results obtained without special apparatus do not appear to me at all to justify this conclusion. They were (1) suppression of the imaginary object by closure of the eyes; (2) suppression of the imaginary object by the interposition of an opaque screen between the eye and the place where the object seemed to be; (3) doubling of the imaginary object by lateral pressure of one eyeball. M. Binet argues that the suppression in the first two cases, and the doubling in the third, depended on the suppression and the doubling of a real sensation, physically induced by rays from the direction in which the object was seen. But the fact that external objects are hidden from view by the interposition of our own eyelids or any other opaque obstacle, has become to us a piece of absolutely instinctive knowledge; and we should surely expect that an object which was but the spontaneous projection of a morbid brain, might still be suppressed by movements and sensations which had for a lifetime been intimately associated with the suppression of objects. And as regards the doubling by pressure of the eyeball, it can be perfectly explained on Baillarger's principles—by supposing that an excitation which has been centrally initiated spreads outwards to the peripheral expansion of the optic nerve.

When, however, we turn to the other group of experiments, the case is very different. The instruments used were a prism, a spy-glass and a mirror. The results were epitomised by M. Binet himself in MIND XXXV., and I need not describe them in detail. It is enough to say that the prism applied to one eye doubled the imaginary object[1]; that the spy-glass removed or approximated it according as the object-glass or eye-piece was applied to the patient's eye; that the mirror reflected the object and gave a symmetrical image of it; and that the optical effect, as regards angles of deviation and reflexion and all the details of the illusion, was in every case precisely what it would have been had the object been real instead of imaginary. Here then we are fairly driven outside the patient's own organism; it is impossible to deny that some point of external space at or near the seat of the imagined object plays a real part in the phenomenon. To this point M. Binet gives the name of *point de repère;* and he regards it as pro-

[1] The observation was first made by M. Féré; see *Le Progrès Médical*, 1881.

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ducing a nucleus of sensation to which the hallucination accretes itself. When the *point de repère* is in such a position as to be reflected by the mirror, then the imaginary object is reflected, and not otherwise; the object is, so to speak, attached to its *point de repère*, and will follow the course of any optical illusions to which its sensory nucleus is subjected. According to this view, the only truly sensory part of the phenomenon is supplied by the *point de repère*; all the rest is a "hypertrophied image" imposed on it by the mind.

These conclusions are entirely foreign to any former theory of hallucination. None of the contending parties, not even the early champions of a purely peripheral origin, had ever dreamt of excitants outside the eye itself. Oddly enough, M. Binet seems hardly aware of his own originality. He remarks that the general view now is that hallucinations are always the product of real sensation; and he divides them into two classes,—those where the sensation is initiated in the sensory organ by an external object ("*hallucinations à cause objective*"); and those where it is initiated by a morbid local irritation of the sensory organ itself ("*hallucinations à cause subjective*"). As practically the inventor of the former class, M. Binet is really the first person who has had a right to this "general view". But his modesty connects itself with a serious historical error. For he still retains Baillarger's term—*psycho-sensorial*—and actually refers to Baillarger as having meant the same by that term as he himself does. With Baillarger—as we have seen—the "sensorial" element was imposed or evoked *by* "the intelligence," *not* supplied *to* it; and was not an unnoticed peg for the hallucination, but its very fulness and substance. Baillarger explicitly lays down, as one of the prime conditions for hallucination, a "suspension of external impressions"; and gives as the definition of a psycho-sensorial hallucination "a sensory perception independent of all external excitation of the sense-organs," including excitation morbidly initiated in the organs themselves.[1] The opposition is really complete. Of all the optical illusions described by M. Binet, the only one which Baillarger's doctrine would explain is the doubling of the object by pressure on the side of the eyeball; for this alone could be accounted for by supposing the retina to be excited from the brain. The novelty of M.

[1] Baillarger, *Des Hallucinations*, pp. 426, 469, and 470. A similar misreading of Baillarger, contained in a single sentence, is the one point from which I dissent in the extremely clear and concise chapter on the subject in Mr. Sully's *Illusions*.

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Binet's own results is that they force us to regard the external impression as not only present but indispensable, at any rate at the moment when the optical instruments produce their characteristic effects.

But while admiring the manner in which M. Binet has marshalled his facts, and recognising that they have led him to a most interesting discovery, I cannot accept his conclusions beyond a certain point. He applies conceptions drawn from his special department of observation to the whole field, and considers that hallucinations are exhausted by the two classes just defined—*i.e.*, that there is no such thing as central initiation. Now even for the cases "*à cause objective*," to which the novel experimental results belong, it is important to observe that though the excitation comes from outside, the *hallucination*—the object as actually perceived—is still (as Baillarger taught) a pure product of the mind. Everything about it, including its false air of reality, is brain-created; and the occasioning or evoking cause has no place in it. But if this be so—and M. Binet himself has practically admitted it—we cannot consent to call the external excitation of the organ *sensation*. M. Binet so treats it throughout—as a sensation atrophied, indeed, and clothed upon with hypertrophical and delusive images; but still as sensation—as a psychical element in the result. Now in considering Delbœuf's experiment above, we objected to the notion that the spectator had a *sensation* of grey which he clothed with an *image* of green. The physical rays that met his eye were such as normally produce the sensation of grey; that is the only way in which the word *grey* can be brought into the account; psychically, no colour but green was present. Just the same objection applies to saying of the hypnotic "subject" that he is receiving from part of the table-cloth a "sensation" of white, which he clothes with an image of a brown butterfly; or of the patient in *delirium tremens*, that he is receiving from the wall-paper "sensations" of drab which he clothes with images of black mice. In neither case is there a "perturbation of sensorial functions" in M. Binet's sense. The sensorial elements, the brown and the black, spring from a new activity within; they are not the outcome of functions exercised on the table-cloth or the wall-paper—not a perverted transcript of white and drab.

Holding fast to this view, we can still perfectly well explain M. Binet's results, even in the hypnotic cases on which he chiefly relies. If the *point de repère* is not at, but close to, the spot where the imaginary object appears (as seems to

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have been the case in some of the experiments), there is no difficulty. The *point de repère* is then itself part of what is all along perceived; and in any effects produced on it by optical apparatus, it will carry the neighbouring object with it by *association*. If, however, the actual area covered by the object is sufficiently distinguished from its surroundings to act itself as *point de repère*, and no other possible *points de repère* exist in the field of vision,[1] the case is different, but can still be explained. It will not be disputed that a slightly longer time is necessary for the formation of the image of a suggested object and the conversion of this image into a percept, than for the experience of sensation from an object actually before the eyes. When therefore the operator points to a particular place on the white table-cloth, and says "There is a brown butterfly," we may suppose that in the patient's consciousness a real sensation of white precedes by an instant the imposed sensation of brown. So when the card-board on which a non-existent portrait has just been seen is again brought before the patient's eyes, it is almost certain that the recognition of it as the same piece of white card-board (known by its *points de repère*) precedes by an instant the hallucinatory process and the re-imposition of the portrait. That there is this instant of true sensation seems to be shown, indeed, by one of M. Binet's own experiments. The patient having been made to see an imaginary portrait on a blank piece of card-board, this was suddenly covered by a sheet of paper. The patient said that the portrait *disappeared for a moment*, but then reappeared on the paper with complete distinctness. We may thus fairly conclude that an area which was actually seen before the hallucination was induced in the first instance, will also be actually seen for a moment when vision is redirected to it (or its reflexion), after the optical apparatus has been brought into play. During that moment, it will of course be seen under the new illusive optical conditions; and *association* may again cause the object which supplants it to follow suit. There can be no objection, however, to supposing that the supplanted area continues further to *provoke* the hallucination, in the same

[1] I cannot quite make out whether these conditions were ever exactly realised. In the case where an imaginary portrait had been evoked on a piece of card-board, and this piece was subsequently picked out by the patient from among a number of similar ones, I gather that there was some recognisable mark external to the area of the portrait. It is said that lateral pressure doubled the image, even when the eyes were "fixed on the uniform surface of the wall". But this particular optical effect, as we have already noticed, does not imply the presence of *points de repère* at all.

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sense that the white rays provoked the green percept in Delbœuf's experiment. The rays which are lost to sensation continue to excite the sensorium physically; and what M. Binet says of the sensation only needs to be transferred to the *physical excitation*—which will have definite peculiarities, corresponding to the distinguishing marks of the area whence it comes. Double this excitation by a prism, or reflect it from another quarter, and the percept which it provokes may naturally be doubled or seen in the new direction. So, if both eyes were employed in Delbœuf's experiment, might the green percept be artificially doubled.

I am aware that this substitution of the physical for the psychical term may appear very unimportant and even pedantic; but in truth it is not so. For it is really his psychical expression of the external stimulus in these cases that has led M. Binet to regard hallucinations as simply a monstrous form of *illusion*, and to enunciate a general formula for them which—for all its attractive and original air—seems radically unsound. He considers them *the pathological—as opposed to the normal—form of external perception.* As in normal perception, we have a visual sensation which we associate with *true* images, so, he holds, in hallucinations we have a visual sensation which we associate with *false* images. The looseness of this analogy is surely obvious, and the apparent symmetry of the two cases quite unreal. In normal vision, the true images which (according to M. Binet's own account) we primarily associate with the visual sensation, are not *visual*, but *muscular* and *tactile* images, whereby we attach the ideas of weight, solidity and distance to what we see. The process through which we get the perception of a real external object is thus primarily an association between psychical elements belonging to different senses—a visual sensation, which the brain receives, and non-visual images, which the brain supplies; and if we convert the non-visual images into sensations by touching or pressing the object, we get a verification of its external reality. Now, if M. Binet's formula is to hold, and hallucinations are the pathological form of external perception, we ought to find that they are produced when for the *true* images of normal perception we substitute *false* images. Is this the case? Suppose a hypnotic patient to be impressed with the idea that a piece of white paper is a red rose: would it be a right account of his hallucination to say that he receives a visual sensation, and then associates with it false muscular and tactile images? Certainly not: what he does is to *see wrong* to begin with, to see false *form* and false *colour*—things

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quite distinct in character from ideas of weight, solidity and distance, and which might exist in the absence of any such ideas. It is true that when he has this visual experience, habit leads him to go and connect it with false images of weight, solidity and distance; but that is a secondary result. Hallucination does not depend on the falsity of those images; and, indeed, the test of touching and pressing would often fail to demonstrate their falsity, owing to the frequent sympathy of several senses in hallucination. The essential fact is immediate, and consists simply in having *a visual experience which others cannot share*—in seeing what is invisible to a normal eye. This becomes clearer still, if we make the imaginary object correspond to a real object in everything except colour. Let the patient be led to believe that a green stick of sealing-wax is a red stick, then, whatever tests be adopted, he will share with normal persons every sensation except the visual; but none the less will the process of hallucination be complete. This process, then, is no way parallel to that of normal perception. It is not, as that was, an association between psychical elements belonging to different senses; and its sensory part, the essence of which is *redness*, is not—as in the normal perception of a red object—*received* by the brain, but is *imposed* by it. By what right can processes so different be represented as co-ordinate—as the healthy and the morbid exercise of the same function?

5. *Cases where External Excitation is doubtful.*

So far I have considered M. Binet's theory only in relation to his own cases—where it was easy to concede the *fact* of excitation from without, whatever be our view of its share in the phenomena. It remains to consider the numerous cases—the large majority of the whole body of hallucinations—where this excitation is itself doubtful, or more than doubtful. Let us take the doubtful cases first.

In the optical experiments it was, of course, convenient that the hallucination should be projected on a flat opaque surface; and on such a surface the objective *points de repère* may be easily found. But it is quite as easy to make the patient see objects in free space—say, out in the middle of the room; and such is the common form of spontaneous hallucinations, both of sane and insane persons, where human figures are seen. The eyes are then focussed, not on the real objects from which *points de repère* would have to be supplied, but on the figure itself; which may be

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much nearer than the wall behind it, and may thus require a very different adjustment of the eyes. And here lies a difficulty for the hypothesis that the hallucination depends on some definite external excitation of the retina. For the real objects which are the supposed excitants, though in the line of sight, are not within the range of clear vision for eyes adjusted to the imaginary object. Can the *points de repère* be supposed to excite a percept whose position is such that, for *it* to be clearly visible, they themselves must cease to be so? It is a good deal to require of them. Still, M. Binet's experiment with the insane patient is a very striking one. This woman, Celestine by name, had an imaginary attendant called Guiteau. Guiteau lent himself to scientific tests, and was doubled by a prism and reflected by a mirror in the most orthodox fashion. This undoubtedly implied *points de repère*—probably situated near, and not on, the area which Guiteau concealed. One would like, however, to know exactly how his figure was situated in relation to its background. The distance between the two may have been inconsiderable; and in that case the fact of the doubling and the reflection would not prove the *points de repère* to have been an essential condition of the hallucination. For, when the patient is made to look attentively at the figure, as a preliminary to the optical tests, the very fixity of the gaze may then and there establish the *points de repère* which will enable those tests to succeed. It would be interesting to know whether Guiteau would be reflected when he was not being specially stared at, supposing that there was a mirror in an appropriate position.[1]

[1] In the case of the hypnotic "subjects," a certain peculiarity in the fixed regard, such as might establish *points de repère*, is strongly suggested by the following fact. In some cases, after a screen had been interposed between the patient's eyes and the imaginary object, she continued to see not only that object (say, a mouse), but a *real object* (say, a hat) on which it had been placed. Thus the hat assumed the property—shared by the imaginary mouse, but unshared by any other real objects—of remaining as a percept in spite of an opaque barrier.

As regards reflexion, the following case is of interest; it is from Mr. Adrian Stokes, M.R.C.S., of Sidmouth:—

"When I was living in Bedford Street North, Liverpool, in the year 1857 (I think), my wife roused me from sleep suddenly and said, 'Oh! Adrian, there's Agnes!' I started up, crying, 'Where? Where?' but, of course, there was no Agnes. My wife then told me that she had awoke, and had seen the form of her only sister, Agnes, sitting on the ottoman at the foot of the bed. On seeing this form she felt frightened; but then, recalling her courage, she thought if the figure were real she would be able to see it reflected in the mirror of the wardrobe, which she had in full view as she lay in bed. Directing her eyes, therefore, to the mirror, there she saw, by the light of the fire that was burning brightly in the grate, the full

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The supposed necessity of the external excitation might be otherwise tested thus. Suppose Celestine to be placed in a white spherical chamber, lit from a point directly above her head. Here there would be no *points de repère*—no special points of external excitation with which an imaginary object could be connected. The only excitant to the eye would be perfectly uniform white light; and this excitant would remain identical, in whatever direction the eye turned. Consequently, if the external excitation be a necessary factor in the production of Guiteau, he ought, if seen at all, to be seen wherever Celestine looked; there would be nothing to attach him to any particular spot. It is rash to prophesy; but I strongly suspect that he would prove more amenable, and that Celestine would retain her power of turning her back on him. Such, in my view, would be the natural result: a figure spontaneously projected by the brain would be located as an independent object, and looked at or not at pleasure. It would be interesting to know, further, if Guiteau is ever seen in the dark. But it should be observed that light may favour and darkness hinder the projection of a phantasm, owing to the different effect of the one and the other on the *general* physiological state. The presence of light might thus be a necessity, quite apart from any distinguishable *points de repère*. In the same way the presence of light is occasionally found to be a condition of *auditory* hallucinations [1]; which even M. Binet would find it hard to

reflexion of the form seated on the ottoman, looking at a bunch of keys which she appeared to hold in her hand. Under the startling effect caused by this sight, she called me to look at it, but, before I was awake, the form and its reflexion had vanished. It was not a dream, my wife is certain.

"*P.S.*—When my wife saw her sister sitting at the foot of our bed looking at the bunch of keys, she (the sister) was clad in the ordinary indoor dress of the time. I remember the start of surprise with which I awoke and exclaimed. My wife has never, that I know of, experienced any hallucination or delirium; and is a woman of excellent sense and judgment. She never saw any other vision but that one."

Here, however, the expectant imagination of the percipient may have been adequate to conjure up the reflected figure, and the case does not therefore support M. Binet's theory.

[1] Ball, *Leçons sur les Maladies Mentales*, p. 116. See also the very interesting case given by Professor F. Jolly in the *Archiv für Psychiatrie*, vol. iv., p. 495. His paper is on the production of auditory hallucinations by the application of an electric current in the neighbourhood of the ear. In one case, he shows good reason for attributing the hallucination, not to a stimulation of the *auditory* nerve, but to a transference to the auditory centre of the stimulus given to fibres of the *fifth* nerve. For the subjective sounds did not, as in all the other cases, correspond in a regular way to the opening and closing of the current, but appeared under all conditions in which *pain* was produced.

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compound out of a "sensation" of light and an "image" of sound.

But the difficulty of regarding external points of excitation as a necessary condition becomes even greater when the hallucination is a *moving* one. As to these cases, M. Binet can only say that the *point de repère* keeps changing; that is, as the imaginary figure passes along the side of the room, in front of a multitude of different objects—pictures, paper, furniture, &c.—the very various excitations from these several objects act in turn as the basis of the same delusive image. We may surely hesitate to accept such an assertion, till some sort of proof of it is offered; and it is hard to conceive of what nature the proof could be. The case of course differs altogether from that where the imaginary figure follows the movements of the eye, owing to some morbid affection of that organ which acts as a real moving substratum for it. Instead of the figure's following the eye, the eye is now following the figure in its seemingly independent course. What is there to produce or to guide the selection of ever-new *points de repère?* To what external cause can M. Binet ascribe the perpetual substitution of one of them for another? On my view—that the figure may be centrally initiated, no less than centrally created—none of these difficulties occur. Such a figure may just as well appear in the empty centre of the room as on a piece of cardboard, and may just as well move as stand still. The same sort of argument applies to the case where the percipient is haunted by a figure which, however, can be seen only in one direction.[1] Thus Baillarger describes a doctor who could not turn without finding a little black cow at his side. The mind may locate its puppet according to its own vagaries; and this experience is very like a sensory embodiment of the well-known delusion that somebody is always behind one.

6. *Cases where External Excitation is absent.*

So much, then, for M. Binet's hallucinations "*à cause objective*". We turn now to the vast body of cases where excitation from the outer world is plainly absent. This class includes phantasms seen in the dark, and probably the

[1] Ball, *Leçons sur les Maladies Mentales*, p. 73; Baillarger, *Des Hallucinations*, p. 312. Another type of the *moving* hallucination is presented by Bayle's case (*Revue Médicale*, 1825, vol. i., p. 34), where a spider used first to appear life-size, and then gradually to expand till it filled the whole room.

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large majority of auditory hallucinations, which have so far been disregarded. To bring these under M. Binet's theory, it has to be assumed that in every case they are initiated by some morbid or abnormal condition of the eye or the ear. The assumption is, to say the least, a very violent one. We have duly noted the cases where hallucinations have been undoubtedly due to injury of the external organ; but this does not establish, or even strongly suggest, the existence of a similar condition in cases where it defies detection.[1] As a rule, where the abnormal condition has been made out, hallucinations have not been its only result. The ulceration of the cornea which initiates visual hallucinations has begun by affecting the vision of real objects. Illusions, or false perceptions of colour, often precede the appearance

[1] The sweeping method seems as much in favour now as at the earlier stages of the controversy. As M. Binet has stated his case in a masterly way, I need not encumber the course of the argument by perpetual references to cognate statements. But there is one mode of presenting the rival views which seems so established in the recent French literature that it will be well to reproduce it here in a succinct form. Writers of authority (Prof. Ball in *L'Encéphale*, 1882, p. 6, and in *Maladies Mentales*, p. 111, &c., and Dr. Régis in his classical paper on unilateral hallucinations in *L'Encéphale*, 1881, p. 44), seem never to have conceived the theory of a purely central origin in any other light than as the "projection of an idea outwards"—a doctrine which they regard as now abandoned, and which they refer to only in its most antiquated shape. They start by treating the "mixed" or "psycho-sensorial" theory as if its point and purpose had been to assert that the *body* counts for something in hallucinations—in opposition to the former crudely "psychical" theory, which made "the imagination" act independently of any bodily affection. They then point to cases where hallucinations have plainly been due to a lesion or morbid irritation of the sensory apparatus; and they adopt this morbid condition as the bodily element or physical basis of the phenomenon—that which gives it its *mixed* character and makes it psycho-*sensorial* instead of psychical. Thence they assert, as an indispensable condition of every hallucination, that the imagination must be set to work by some "abnormal sensation" derived from some point of actual lesion. This is both confused and confusing. Hallucinations, as we have seen, are psycho-sensorial in virtue of their *nature*, not of their *origin*—because they present distinct sensory qualities—are things actually *seen* and actually *heard*—not because this or that starting-point can be assigned them. As for their physical basis, that can be nothing else than a concurrent state of morbid activity at certain cerebral centres. In some cases this activity is no doubt due to lesion at some point along the sensory track; in others, as I here contend, it may originate at the centres themselves and may be independent of any excitation previous to or other than itself. Whether right or wrong, this contention will certainly not be refuted by confounding it with the antiquated "psychical" view, which took no count either of a physical basis or of sensory qualities. As for the "projection of an idea outwards," that of course is an expression of the immediate *fact* of hallucination, apart from the question of the *excitant*. Why should it be abandoned? Is it not at

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of more distinct phantasms.[1] So, in cases of more transient abnormality—such as the well-known *illusions hypnagogiques* —other signs precede the hallucination. The observer, whose eyes are heavy with sleep, begins by seeing luminous points and streaks, which shift and change in remarkable ways; and it is from these as nuclei that the subsequent pictures develop. Similarly one of the seers of "Faces in the Dark" (*St. James's Gazette*, Feb. 10, 15 and 20, 1882) described the frequent vision of a shower of golden spangles, which changed into a flock of sheep. Now, since our physiological knowledge leaves no doubt that the points, streaks and spangles are due to the condition of the retina, it is reasonable in such cases to regard this condition as initiating the hallucination. But it is not equally reasonable to conclude that the process must be the same for cases where the points, streaks and spangles are absent. I do not forget that even a normal eye is subject to affections which escape attention, until a special effort is made to realise them. But wherever the hallucination can be gradually traced in its development from more rudimentary sensations, these last are very distinct and exceptional things, unknown in the experience of most of us, and the vision itself is commonly of a changing kind—the features developing rapidly out of one another; often also of a swarming kind—detailed landscapes, elaborate kaleidoscopic patterns, showers of flowers, lines of writing on a luminous ground, and so on.[2] Now, compare such experiences with ordinary cases of "ghost-seeing" in the dark. A man wakes in the night, and sees a luminous figure at the foot of his bed. Here the hallucination comes suddenly, single and complete, to a person whose eyes are open and unfatigued; it is not preceded by any peculiar affection of vision, is not developed out of anything, and does not move, or swarm, or develop fresh features; nor does it fulfil M. Binet's test of

any rate as well suited to its purpose as the only piece of information that Prof. Ball offers us in its stead—namely, that hallucinations are the creation of a brain predisposed to create them?

The advocacy of the "cerebral origin" must, of course, not be taken to imply that the condition of the brain is isolated from that of the rest of the body. The abnormal excitability of the brain may be intimately connected with morbid conditions elsewhere: all that is contended is that no immediate sensory stimulant is needed as a definite basis or peg for hallucinations.

[1] Dr. Max Simon in the *Lyon Médical*, vol. xxxv., p. 439.

[2] Galton, *Inquiries into Human Faculty*, pp. 159-163; Maury, *Le Sommeil et les Rêves*, p. 331.

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hallucinations due to the state of the external organ, by moving as the eye moves.[1] Such visions are commonly explained—and often no doubt with justice—as due to nervousness or expectancy. But nervousness and expectancy surely act by exciting the mind, not by congesting the retina; they work on the imagination, and their physical seat is not in the eye, but in the brain. Why then should not the brain initiate the hallucination? Why may not "visions of the dark," which vary so greatly both in themselves and in the general conditions of their appearance, vary also in their seat of origin?

The auditory cases are even plainer. For it is only exceptionally that the waking ear, like the waking eye, is subjected to marked and continuous stimulation from without, such as might serve, on M. Binet's view, as a basis for a prolonged hallucination. It is not even subject to borderland experiences analogous to the *illusions hypnagogiques*. The only alternative, therefore, to supposing the phenomena to be centrally initiated, is to suppose some abnormality in the external organ itself. Such an abnormality has often been detected; and even where not absolutely detected, it may sometimes be inferred from other symptoms. Thus, an enlarged carotid canal, or a stoppage which produces an unwonted pressure on the vessels, will first make itself felt by hummings and buzzings; hallucination then sets in, and imaginary voices are heard, and these then we should naturally trace to the local irritation that produced the former sounds. But why are we to treat in the same way cases where there are no hummings and buzzings and no grounds for supposing that there is stoppage or lesion of any sort? Among a numerous, though much neglected, class of phenomena—the casual hallucinations of the sane—the commonest form by very far is for persons to hear their name called when no one is by. The experience is often remarkably distinct, causing the hearer to start and turn

[1] M. Binet treats all "ghost-seers" as so paralysed with terror that they do not move their eyes from the figure—which leaves it open to him to guess that the figure would move if their eyes moved. Having made a large collection of cases of hallucinations of the sane, I am in a position to deny this. To Wundt, also, stationary hallucinations that can be looked away from seem unknown as a distinct and fairly common type, and he inclines to regard them as mere illusions. Brewster's case of Mrs. A., and the well-known cases given by Paterson (*Edinburgh Medical and Surgical Journal*, Jan. 1843) would alone suffice, I think, to refute this view. See also Kandinsky's and Schröder van der Kolk's own experiences (*Archiv für Psychiatrie*, 1881, p. 461, and *Pathology and Therapeut. of Mental Diseases*, p. 14).

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round. It is not at all connected with conditions that produce blood-pressure, such as lying with one ear closely pressed on the pillow: it comes in a sudden and detached way, and apparently at quite accidental moments. Again, among the insane a well-known form of hallucination occurs in the form of dialogue; the patient returns answers to the voices that haunt him, and is answered in turn. Are we to suppose here an *intermittent* abnormality of the ear, which always sets in by chance at the very moment when the imaginary speaker's replies fall due? It may be added that even where a distinct morbid cause can be traced, it is as often as not a *central* cause. After a long course of alcohol, a man begins to hear voices; but alcohol, while admittedly affecting brain-tissue, has no recognised tendency to affect the ear.

A further argument for the central initiation of many hallucinations of the more distinctly morbid sort may be drawn from the *course* which the morbid process takes. The first stage is often not a sensory hallucination at all; it is a mere delusion; the patient thinks that plots are being concocted against him. After a time his secret enemies begin to reveal themselves, and he hears their abusive and threatening language. We surely cannot ascribe the sensory experience here to a lesion of the ear which happens to occur independently, but regularly, at this particular stage; it follows, on the other hand, in the most natural way, if we regard it as imposed from within, as soon as the disease has gone far enough for the mind to clothe its imaginary fears in a more vivid form. Specially conclusive in this respect are the cases where voices begin to address the patient in the most internal way, without sound, and only after a time talk in a distinctly audible character.[1] But the most interesting of all the cases in point are those where one type of hallucination assails one side of the body and another the other.[2] They confirm what was said above—that the mere fact of a hallucination being *unilateral*, or peculiar to one side of the body, though suggesting a defect in the external organ, is by no means a proof of it.[3] The double sensory experience follows with exactness the course of the delusions. The patient first suffers from melancholy

[1] Griesinger's *Ment. Path. and Ther.*, p. 89. The bearing of this fact on the theory of central origin has been noted by Mr. Sully, *Illusions*, p. 119.

[2] See Dr. Magnan's account in the *Archives de Neurologie*, vol. vi., p. 336.

[3] *Cf.* Dr. A. Robertson in the *Report of the International Medical Congress*, 1881, vol. iii., pp. 632-3.

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and discouragement; this develops into a belief that he is surrounded by enemies; and he then hears insulting voices on the right side. To this unhappy stage succeeds in due course one of exaltation and self-esteem; the patient believes himself to be the son of God. And now encouraging and eulogistic voices present themselves on the left side. "The good and the evil genii form a sort of Manicheism which governs him." Here the imagination, as its operations became more complex, and established an opposition of character between its creatures, took advantage (so to speak) of the fact that the body has two opposite sides; it located friends and foes just as they might be located in a picture or play which represented an impending contest. It cannot surely be maintained that by accident the right ear began to be locally affected, just at the time when the development of the plot necessitated the entrance of the friendly power upon the scene. Another case involves the sense of touch. A man, after praying for a year that his actions might be divinely guided, heard a voice say, "I will save thy soul"; and from that time forward he felt his left or his right ear touched by an invisible attendant, according as he was doing right or wrong.[1] Did the auditory hallucination coincide by chance with the commencement of local irritation in the *pinna*. Dr. Magnan adds three examples of alcoholism, where abuse and threats were heard on one side, praise and consolation on the other. In these cases there were crises of fury, in which hallucinations of all the senses took place, involving both sides alike, and masking the more ordinary condition. On the decline of these crises, the opposed auditory hallucinations recommenced. It seems impossible to resist Dr. Magnan's view, that the poison, distributed through the whole brain, provokes at times a general crisis; but that when this subsides, it localises its action at the weakest spot. Should this happen to be the auditory centre on one side, a single unilateral hallucination would be the result; but if both centres remain affected, the projection may assume the complex two-sided form.

But the strongest cases of all in favour of a purely central initiation yet remain—the cases of hallucination *voluntarily originated*. Wigan's instance has often been quoted, of the painter who, after carefully studying a sitter's appearance, could project it visibly into space, and paint the portrait not from the original but from the phantasm. He ended by confounding the phantasmal figures with real ones, and be-

[1] Bodin, *Démonomanie des Sorciers* (Edition of 1850, Paris), p. 10.

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came insane. Baillarger reports another painter, Martin, as having similarly projected pictures, which so interested him that he requested anyone who took up a position in front of them to move.[1] A still more interesting case, recently reported by Dr. V. Parant, is that of an asylum-patient who, when thwarted or annoyed, would go to special spots to consult imaginary advisers; the replies she received —it need hardly be said—always corresponded with her own desires and prejudices. Another insane woman used to play "odd and even" with an imaginary prefect of police, whose guesses were always wrong.[2] M. Binet will surely not maintain that in these cases the person first establishes, by an effort of will, some sort of peripheral excitation, and that this then reacts by evoking the hallucination. Such a circuitous route might with equal reason be imagined for any simple act of representation or memory.[3]

The only other group of phenomena that we need notice is one that all writers since Baillarger seem to have agreed to treat as a quite unique type. It is a class of which frequent examples have been observed among religious mystics

[1] One of the seers of "Faces in the Dark" reported that he could produce the vision of the spangles and sheep at will. His case differs, however, from those given in the text. For, in the first place, his vision was one of old standing; and, in the second place, his retina must have been pretty constantly in the abnormal state. I should thus ascribe the phenomenon to a concentration of attention on actual visual sensations, which fell by habit into the familiar lines. It would be interesting to know whether, after the spangles had appeared, it was possible to *check* their development into sheep.

[2] *Annales Médico-psych.*, 6th series, vol. vii., p. 379; Ball, *Maladies Mentales*, p. 98. See also the cases described by Michéa in the *Ann. Médico-psych.* for 1856, p. 389, and M. Sandras' own experience in the same journal for 1855, p. 542. It is odd to find *involuntariness* not infrequently taken as the distinctive abnormality in hallucinations (Falret, *Des Maladies Mentales*, p. 281, Buchez and De Castelnau in the French debates of 1855-6); and the odder, inasmuch as not only may hallucinations be voluntary, but the mental pictures and memories, from which they are to be distinguished, are of course often involuntary.

[3] I should have been tempted to regard these voluntary cases as conclusive had I not found Prof. Ball (*Maladies Mentales*, p. 122) explicitly claiming them as hallucinations provoked by an "abnormal sensation". He does not tell us what the abnormal sensation is, or what causes it. He contents himself with pointing out that hallucinations are very like dreams; that some dreams are (and therefore, apparently, all dreams must be) provoked by external stimulation—say a knock at the door; and that we can sometimes direct the course of a dream at will: *ergo*, it is easy to see how some people may start a hallucination at will. It would be more to the purpose if he would introduce us to a dreamer who can designedly start a pre-arranged dream by knocking at his own door.

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and persons who believe themselves to be in direct communication with spiritual guides. Such persons describe a voice which is yet soundless, which utters the "language of the soul" inside them, and which they hear by means of a "sixth sense," and without any apparent participation of the ear. Owing to the absence of a definable sensory quality, Baillarger distinguished this class as *psychic* hallucinations, in opposition to *psycho-sensorial;* and M. Binet himself is inclined to treat them as exceptional, and to grant them an origin from within. As one who holds that that is equally the origin of a large number of the undoubted *psycho-sensorial* hallucinations, I cannot recognise this exception; and to me the class in question is of interest, not as *distinguished* from the psycho-sensorial family, but as a true species of that genus, presenting the sensorial element reduced to its very lowest terms. These "psychic" hallucinations appear to me as the first stage of a graduated series—the embryonic instance of the investiture of an image or representation with a sensory or presentative character. In proportion as the sensorial element in hallucination is attenuated and dim, or full and distinct, will the perception appear internal or external; and these cases are simply the most internal sort, between which and the most external sort there exist many degrees of *partial* externalisation. This view has surely everything to recommend it. We can but take the patient's own account—that he has a distinct impression of words; and that this impression has an actuality which clearly separates it from the mere image or memory of words. How can this separation be conceived, except by recognising the presence of a genuine, though faint, sensorial element? Of what exactly this element may consist, is another question. Dr. Max Simon (in the *Lyon Médical*, vol. xxxv., pp. 435, 486) has made the very plausible suggestion that what is felt is a muscular impulse to form the words, rather than the sound of them—an impulse exhibited in its extreme form in the irresistible continuous vociferation of mania. On this account, Dr. Simon even refuses to regard the experience as hallucination at all. Here, however, I cannot follow him. For, however much a motor-current or impulsion towards speech be involved, the patient's sensation is of something other and more than this. For him, the words are not suggested or initiated, but actually and completely *produced;* in his description of the product we do not encounter terms of impulse or movement, any more than terms of sound. Here we surely trace the characteristic delusive element: what a normal person would recognise as purely subjective

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experience has assumed an objective reality. In what then does the experience fall short of hallucination? If we adopt Dr. Simon's view, so far as to regard it as hallucination of the muscular sense, it becomes of interest to note that it does not admit of any parallel of a *visual* sort; for no order of visible objects can at all rival language in the closeness and directness of its association with a particular set of muscular movements. And this very fact—this absence of any *sightless* hallucinations to compare with these *soundless* ones—is perhaps the reason why the latter have passed as an isolated non-sensory class, with a separate mode of origin. I am concerned to substitute my own view of them; for to admit a genuine sensory element in the most "internal" species of hallucination—which all agree to be centrally initiated—will practically be to admit a similar initiation for *other* psycho-sensorial hallucinations.

And this leads me to a concluding word of criticism on M. Binet's hypothesis. We have seen that it is violent; may we not add that it is gratuitous? He has himself most rightly insisted on the fact that images and sensations are not separated by an impassable gulf, but merge into one another; and he will allow that in many hallucinations, the image—however evoked—gets charged with the whole fulness and vividness of sensation. But then how can it be treated *simply* as an image, superposed on a quite different sensation? To recur once more to Delbœuf's experiment, or to the brown butterfly and the black mice, M. Binet will admit that *somewhere* in the brain activities corresponding to green, to brown, to black, are going on: he is not the writer to make "the imagination" bob in among physical facts like a *deus ex machinâ*. By what right, then, are these activities to be confined to *ideational* tracts, and excluded from all access to a true *sensory* centre? What temptation is there to strain facts and theories in order to make out that the central initiation of sensation is impossible? The hypnotic "subject" will smack his lips over the sweetness of sugar when there is nothing in his mouth—will sniff with delight at a piece of wood when told it is a rose: may not the brain do for sight and hearing what it does for taste and smell? M. Binet seems really to have been led off the track by his own brilliant experiments with prisms and mirrors. Even in those cases, as he admits, the whole work of creation is done by the brain. Even for him the gist of the experience is not the atrophied external "sensation," but the hypertrophied, brain-imposed "image". We do but ask him to concede that the "image," which can here do so much, can else-

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where do a very little more and, while charging itself with full sensation from within, can dispense with the atrophied contribution from outside. Why should it not? There is nothing to lead one to suppose that images would assume the unwonted vividness of sensations specially at moments when the external organs of sense are occupied with *other* sensations; rather the reverse. Is not the sort of day-dream which comes nearest to hallucination, favoured by *repose* of the sense-organs? When we want to call up the vivid image of a scene, to make it as real—as sensorial—as possible, do we not close our eyes? And what are the seasons of life in which genuine hallucinations are commonest? Are they not seasons of *sleep?* Are not *dreams* by far the most familiar instances of the projection by the mind of images that are mistaken for realities? It is just because they are *so* familiar, and waking-hallucinations comparatively so rare, that we are in danger of overlooking the essential similarity of the phenomena, and the light which the former class can throw on the latter. Indeed, if waking-hallucinations are to be taken as the pathological form of any normal function, much might be said for taking them as the pathological form of dreaming; and we might present the waking-dreams of haschisch-poisoning as a sort of intermediate link. The normal dream disappears when sleep departs; having been able to impose its images as realities only because in sleep our sensory faculties are to a great extent benumbed, and images cannot therefore be compared with actual presentations. Thus the normal dream cannot survive the corrective which the contact of the waking-senses with the external world supplies; it fades like a candle at sunrise; and its images, if they survive, survive as images and nothing more, emptied of all robust sensory quality. The hallucination, or pathological dream, on the other hand, does not require to be thus guarded from comparison with real presentations; its "hypertrophied images" are able to resist the normal corrective, for they are often as fully charged with sensory quality as the external realities which compete with them. But though we may thus regard hallucinations as a pathological form of dream, what is here more in point is the converse view—that dreams are a healthy form of hallucination. For it cannot but appear less likely that excitation of the external organs is a necessary basis for hallucinations, if hallucinations turn out to be most common at precisely those times when the external organs are least excited.

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6. *The question of Cerebral Localisation.*

We may now proceed to an altogether different question —namely, at what part or parts of the brain the creative process takes place, and in what it can be conceived to consist. The distinction that has so long occupied us, between central and peripheral initiation, may henceforth be dismissed; for wherever *initiated*, hallucinations are assuredly *created* by the brain from its own resources. An initiating stimulus may probably come from any point on the line from the external organ to the central terminus, along which a nervous current passes in our normal perception of objects. But that stimulus will clearly not determine what the imaginary object shall be, or invest it with any of its qualities: it will merely set the creative machinery in motion; and the same stimulus—the same inflammation of the eye or ear—may set the machinery in motion a hundred times, and each time evoke a different hallucination. Where then, and what, is this creative machinery? It would be out of place here to attempt any minute account of the various theories, which have for the most part rested on anatomical observations; and the more so, that their details are still *sub judice*. But in a more general way the problem can be stated, and even I think to some extent determined.

If we begin at the beginning, we find agreement among the authorities up to a certain point. All are agreed in recognising *some* part or parts of the brain in which the nerves passing from the various sense-organs terminate, and where the impressions conveyed by the nerves produce the changes which are the physical basis of sensation, or—in the ordinary crude but convenient language—where "impressions are transformed into sensations". As to the locality and extent of these, there is a conflict of views, which may be to some extent reconciled if we regard the process as taking place in several stages. Some (Luys, Ritti, Fournié) believe the principal scene of action to be the large central masses called the optic thalami; others (Schröder van der Kolk, Meynert, Kandinsky) would place the centre lower down—that of vision, for instance, in the corpora quadrigemina; others again (Hitzig, Ferrier, Tamburini) locate them higher up, in the cortex itself; and Goltz assigns them so diffused an area that the word centre becomes scarcely appropriate. But all are agreed, I imagine, that they are distinct from the tracts associated with the most highly-developed phenomena of consciousness — complete perception, ideation, memory, and volition; and even if the idea of local separa-

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tion should come to be modified in the direction indicated by Goltz, the distinctions would be re-interpreted as differences of less and more complex activities. The authorities agree further in connecting the "sensory centres" in a special way with hallucinations. It could not, indeed, be otherwise when once the full sensory character of the phenomena is recognised; for that character can only be the psychical expression of changes at the sensory centres. Any particular activity of these centres which reaches a certain intensity will affect us as a particular sensation; whether excited (1) normally, from the sense-organ; or (2) pathologically, by local irritation on the line between the sense-organ and the centre; or (3) pathologically, but spontaneously, in the centre itself. In the first case the sensation will be a true one, *i.e.*, will correspond with a real external object; in the second and third cases it will not; but as sensation, it will be the same in all three.

Now for *one* view of the creation of hallucinations, these data are sufficient. We have only to suppose that, in cases (2) and (3), the agitation at the sensory centre falls readily into certain lines and combinations, so as not only to produce a large variety of sensations—colours, if it be the visual centre, sounds, if it be the auditory one—but to arrange these elements in various definite groups. Everything will now proceed precisely as if these effects had been due to the presence of a real object. The excitation will pursue its ordinary upward course to the highest parts of the brain, and will lead to intelligent perception of the sensory group as an object; while by a yet further process (which will probably take place only in the most complete or "external" form of hallucinations), à refluent current will pass downwards to the external organ, and the perception will be referred to the eye or ear, just as though its object were really acting on those organs from outside.[1] There then is the full-fledged hallucination; and its creative

[1] Krafft-Ebing, *Die Sinnesdelirien*, p. 11; Despine, *Étude Scientifique sur le Somnambulisme*, p. 328; Tamburini in the *Revue Scientifique*, 1881, p. 139. The mere subjective fact of this reference to the external organ would not prove (as Tamburini seems to assume) that the organ had been actually excited by the refluent current. But, in the case of vision, we have at any rate a fair amount of proof. First, there is the fact already noted, that pressure on the side of one eyeball doubles the phantom. It seems difficult to refer this result to association—the doubling of ordinary objects by such pressure being an infrequent and little noticed experience. Secondly, we have a case of *hemiopic* hallucination recorded by Dr. Pick, of Prague, where only the upper halves of imaginary figures were seen; and where it was ascertained that the upper half of the retina (to which

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machinery, according to this view, lies wholly in the sensory centre.

But there is another view. We have noted *three* ways in which the machinery may be set in motion; but there is a *fourth* possible way. The excitation may come *downwards* from the higher part of the brain—from the seats of ideation and memory. And clearly this sort of excitation will have a dominance of its own. It will have *its own* psychical counterpart—an idea or a memory; and when it sets the sensory machinery in motion, that machinery will not now produce or combine a group of sensations determined by its own activity; but will merely embody, or as we might say *execute*, the idea or memory imposed on it. Here, then, the only machinery which is in any sense *creative* is situated in the higher ideational tracts. And if we wish to identify the exact starting-point of the hallucination, as such, we must fix it at the point of contact between the ideational and the sensory activities. As long as the nervous activity is confined to the ideational tracts, though there is creation, there is no hallucination; that word is never used to describe the mere image or memory of an object. It is only when the activity escapes downwards, with such force as strongly to stimulate the cells at the lower centre, that sensation floods the image, and we get the delusive percept or hallucination. The force of this downward current may exhibit all degrees. It is probable that even for the barest idea or memory of an object there is some slight downward escape, with a corresponding slight reverberation of the sensory centre; and where, as in rare morbid cases,[1] the escape is wholly barred, all power of calling up visual images is lost. With every increase in the force of the escape, there will be a rise of

of course the lower half of the figure would have corresponded) was anopic. Further, it has been noted by H. Meyer of "hypnagogic illusions," and by Gruithuisen of hallucinations which consist in the surviving of dream-images into waking moments, that they can give rise to *after-images*; this, however, might perhaps not imply more than the brief continuance of excitation at the *central* cells.

Wundt (*Phys. Psych.*, vol. ii., p. 356) seems to think that this centrifugal retinal stimulation is excluded in the cases where the phantom does not move with the movement of the eye. But, there being a physical process corresponding to the idea of a stationary phantom, why may not that process extend to the whole carrying out of the idea, so as to include the turning on or off of the retinal stimulation according as the phantom is looked at or away from?

[1] See the case quoted in the *Archives de Neurologie*, vol. vi., p. 352. "Je rêve seulement paroles, tandis que je possédais auparavant dans mes rêves la perception visuelle." The *Progrès Médical*, July 1883, has another interesting case.

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sensory quality, and a nearer approach to absolute hallucination; and every stage will thus be accounted for, from the picture "in the mind's eye" to the phantom completely externalised in space. But whatever the degree of the delusion, its local origin is the place where the current, so to speak, bursts the sluice-gates which physically represent the distinction between ideas and percepts.

Here, then, are the two possibilities: (1) that hallucinations are produced by an independent activity of the specific sensory cells—the sensations which arise there being perceived as objects when the nervous current passes on centripetally to the higher parts of the brain; (2) that the part played by the specific sensory cells[1] is only a response to what may be called *ideational* excitation, propagated centrifugally from the higher tracts where the image has been formed.

In attempting to decide between these possibilities, we shall get little assistance from direct pathological and physiological observations. These have been mainly directed to an end rather the converse of ours—to utilising the facts of hallucination for fixing the locality of the centres, by inspection of the brains of persons who have been in life markedly hallucinated. But cerebral pathology, as Ball trenchantly remarks, has a way of lending itself to the demonstration of whatever one wants. Lesions rarely confine themselves neatly to specific areas. We find M. Luys, the chief advocate of the optic thalami as the primary seat of hallucinations, admitting the constant spread of lesions from the thalami to the cortex[2]; and Dr. W. J. Mickle[3] considers—as the result of a number of very careful necropsies—that in cases of hallucination "thalamic disease plays a less important part than cortical". But on the other hand, he did not find that the lesions were definitely associated with the spots on the cortex which Ferrier and the advocates of restricted cortical localisation mark out as the visual and the auditory centres; while lesions at these spots—the angular gyrus and the first temporo-sphenoidal convolution—seem to be found in cases where no hallucination has been observed.[4] This want of correspondence will

[1] I eschew here the expression "sensory centres," merely to avoid confusing with the higher "centres" to which the words "centripetal" and "centrifugal" refer.

[2] *Gazette des Hôpitaux*, Dec. 1880, p. 46.

[3] *Journal of Mental Science*, Oct. 1881, p. 382.

[4] *Journal of Mental Science*, Oct. 1881, p. 381, and Jan. 1882, p. 29.

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seem less surprising if we remember the vast number of casual hallucinations where nothing that could be called a lesion exists; and also that the more persistent hallucinations of the insane belong, as a rule, to the *earlier* period of *irritation*, rather than to the *later* one when marked lesion has supervened, and dementia is creeping on.[1] Even if we take subsequent cortical lesion as a sign that the weak spot existed from the first in the highest part of the brain, this would be no proof that the specific sensory centre is cortical. If lesions are not bound to be locally restricted, much less are irritations; and there is nothing to refute the supposition above made, that, when the hallucination occurs, a current has passed downwards to the lower centre—the mischief in the cortex having been primarily an excitant of ideational activities only, and the hallucination being due (as Dr. Mickle well expresses it) to "a tumultuous disorderly reaction of disturbed ideational centres upon sensorial". The same may be said of the *artificial* irritation of the "cortical centres" during life. Ferrier regards the movements which result when an electrical stimulus is applied to these areas, as an indication that visual or auditory sensations (*i.e.*, hallucinations) have been evoked. We may quite accept this interpretation, but still suppose that the primary seat of the sensation was not the spot where the stimulus was applied, but a lower centre on the path along which the irritation passed.[2]

[1] Luys, *Gazette des Hôpitaux*, 1881, p. 276., Despine, *Ann. Médico-psych.*, 6th series, vol. vi., p. 375; Tamburini in the *Revue Scientifique*, vol. xxvii., p. 141.

[2] It may be remarked, by the way, that what has been here said as to the relation of *hallucinations* to cerebral localisation will apply, *mutatis mutandis*, to *blindness*. We may suppose the action of lower centres to be *inhibited*, as well as abnormally excited, by stimulation from above. Thus the fact that blindness follows certain cortical lesions does not by any means establish the location of the principal sensory centres in the cortex. And as it happens, some of the facts of blindness seem absolutely adverse to that location—I mean the phenomena of so-called "psychical blindness," where cortical lesion has produced loss of memory and of the higher junctions of *perception;* while *sensation* (according to Munk's view) remains intact, and may gradually give rise to new perceptions and new memories. The observations of Munk and Goltz as to the survival of vision, though not of intelligent vision, after extensive cortical injury, seem distinctly favourable to the theory of the *lower* position of the specific sensory centres. Nor need that theory conflict with the most extreme view as to the absence of circumscribed areas in the cortex. Goltz himself would not deny that *some* place or places on the paths of the optic and the auditory nerve are specially connected with the fact that the stimulation of the one corresponds with sight, and of the other with sound.

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We are thus thrown back on less direct arguments, derived from the nature of the hallucinations themselves. And I think the mistake has again been in imagining that one or other of two alternatives must be exclusively adopted —that either the lower or the higher origin of hallucinations is the universal one. All, I think, that can be fairly said, is that, while the first mode of origin is a *probable* one for some cases, the second mode is a *certain* one for others. Hallucinations produced *at the will* of the percipient *must* first take shape above the sensory centres. For it is indisputable that the *idea* of the object to be projected—the picture, face, sentence, or whatever it may be—must precede its sensory embodiment as a thing actually seen or heard; and the idea, as well as the volition, is an affair of the higher tracts; MM. Luys and Ritti will certainly not locate either of them in the optic thalami. But if the advocates of the first mode have thus ignored an important class of cases, the advocates of the second have erred by adopting a quasi-metaphysical standpoint. Thus Dr. Despine, who has given an extremely clear account of the centrifugal process (*Annales Médico-psychologiques*, 6th series, vol. vi., p. 371), argues that for a hallucination to arise, we first need an idea—"*an object which does not exist*"; and if in a way it is endowed with existence, this, as a purely constructive act, can only emanate from the seat of the highest psychical activities. There is some originality in extracting a physiological conclusion from the relation of the mind to the non-existent. But at this rate the image of the sun's disc on the wall would originate in a constructive act of the mind: it is as much "an object that does not exist" as the most elaborate phantasm. The non-existence of an object outside the organism is quite irrelevant to the course of nervous events inside; and whether we regard a psychic act, for any given case, as *constructive* or *receptive*, depends simply on whether the nervous excitation is spontaneous or is received from below. Now this may be applied, as we have seen, to the lower centres of sensation as reasonably as to the higher tracts of perceptive ideation; the former may *construct* as truly as the latter; that is to

It cannot be maintained that this psychical distinction has no local representative; for such a contention would logically lead to denying, *e.g.*, that the corpora quadrigemina in the lower animals have any particular relation to vision. Thus, whatever be the final issue of the vexed question of cortical areas of *perception*, a local distinction of genuine centres of *sensation* somewhere in the brain seems as certain as the distinction of the external organs themselves.

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say, the configurations and activities of their cells may produce definite groupings of the sensory elements.

And for simple and recurrent forms of hallucination, much may be said in favour of this lower origin. It is in accordance with all that we know or conjecture as to nerve-tissue, that certain configurations and modifications of cells would be rendered easy by exercise; and thus the changes to which any morbid excitement gives rise might naturally be the same as have often before been brought about by normal stimulation from the retina or the ear. The elements would fall readily, so to speak, into the accustomed pattern. An object which has been frequently or recently before the eyes—a word or phrase that has been perpetually in the ear—these may certainly be held capable of leaving organic traces of their presence, and so of establishing a sort of lower memory. That this lower memory should act automatically, and independently of the will, seems natural enough when we remember how large a part even of the higher memory is also automatic: an unsought word, suddenly reverberating in the sensorium, is on a par with the images that emerge into consciousness without our being able to connect them with our previous train of ideas. Now it is remarkable how large a number of hallucinations are of this primitive type. I mentioned above that, among the sane, the commonest of all cases is to hear the name called; and even with the insane, the vocabulary of the imaginary voices often consists of only a few threatening or abusive words.[1] So of optical hallucinations. With the sane, a large number consist in the casual vision—an *after-image*, as we might say—of a near relative or familiar associate. More persistent cases are still frequently of a single object. I have mentioned the doctor and the black cow; similarly a lady, when in bad health, always saw a cat on the staircase.[2] And among the insane, a single imaginary attendant is equally common: our friend "Guiteau" above was an instance. Wherever such simple cases are not connected with any special *délire*, or any fixed set of ideas, they may, I think, be fairly (though of course not certainly) attributed to an activity following the lines of certain established tracts in the sensorium. We might compare this locality to a kaleidoscope, which when

[1] On this subject, see Dr. V. Parant in the *Ann. Médico-psych.*, 6th series, vol. vii., p. 384. These embryonic hallucinations often develop into more complex form; see Ball, *Maladies Mentales*, p. 67.

[2] Blandford, *Insanity and its Treatment*, p. 155.

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shaken is capable of turning out a certain limited number of combinations.[1]

But, on the other hand, the astonishing variety and complexity of other cases—whether visual appearances or verbal sequences—seem absolutely to drive us to a higher seat of manufacture; for they demand a countless store of elements, and limitless powers of ideal combination. The patient listens to long discourses, or holds conversations with his invisible friends; and what is heard is no echo of former phrases, but is in every way a piece of new experience. So, too, the number and variety of visual hallucinations which may occur to a single person, sometimes even within the space of a few minutes, is astonishing. The shapes and features of Dr. Bostock's apparitions were always completely new to him; the seers of "Faces in the Dark" who had in the course of their lives seen many thousand phantasmal faces, had never seen one that they recognised; Nicolai, who was never otherwise than perfectly sane, and who eventually recovered, continually saw troops of phantoms, most of them of an aspect quite new to him; and in insanity such a phenomenon is common enough. Even in the casual hallucinations of the sane, what is seen is less commonly a mere revival of an object which the eyes have previously encountered than an unrecognised person. Here, then, we have an immense amount of high creative work—of what in psychical terms we should call *par excellence* the work of the imagination; and this is work which we have good grounds for supposing that the highest cortical tracts, and they alone, are capable of performing. From our experience of the number and mobility of the ideas and images that the mind in a normal state can summon up and combine, we know that the cells of the highest cerebral areas are practically unlimited in their powers of configuration and association; but we have no right to assume the same inexhaustible possibilities as existing independently in

[1] Charcot (*Le Progrès Médical*, 1878, p. 38) has noted a curious form of unilateral hallucination, which occurs sometimes to hysterical patients on the side on which they are hemianæsthetic—animals, passing rapidly in a row from behind forwards, which usually disappear when the eyes are turned directly to them. Examined by the ophthalmoscope, the eyes of these patients appear absolutely normal. Charcot attributes amblyopy and achromatopsy, occurring in the same persons (as well as in non-hysterical cases of hemianæsthesia), to lesion at a point which he calls the *carrefour sensitif* in the hinder part of the internal capsule; and I assume that he would refer the hallucination to the same point. If so, he may be quoted as an authority for the infra-cortical initiation of simple and recurrent forms of hallucination.

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any specific sensory centre—we might almost as well expect a kaleidoscope to present us with an ever-fresh series of elaborate landscapes. And over and above all this, we can point to the constant connexion between the delusions, the *conceptions délirantes* of the insane and their sensory hallucinations,[1] which makes it almost impossible not to regard the latter as a particular effect of the more widely diffused cerebral disturbance. The conclusion seems to be that for many hallucinations the mode of origin can be no other than what I have called the *centrifugal*.

I have throughout tried to express what I have called the centrifugal theory in such terms that it might be accepted even by those who locate the sensory centres themselves not below, but in, the cortex. According to these physiologists, the whole *double* transformation, of physical impressions into visual or auditory sensations, and of these sensations into complete perceptions and mnemonic images, would be practically referred to one spot. It must be admitted that this view seems at times connected with the want of a due psychological distinction between sensation and perception. But even supposing a specific centre of sensation to be thus equally the seat of psychic functions higher than sensation, it would still be none the less liable to be stimulated by parts of the cortex external to itself; and the nature of many hallucinations would still indicate that they depend on this stimulation, and not on a mere spontaneous quickening of morbid activity in the centre itself. For instance, a girl is violently distressed by seeing her home in flames, and for days afterwards sees fire wherever she looks.[2] One must surely trace the hallucination to the *distress*, and so to an "escape of current" from the seat of ideas and images other than visual ones. Again, in the case described above, where the hallucinations faithfully reflect the changes of the whole moral and intellectual bias, the local excitement in the sensory centre would still be traceable to an abnormally strong irradiation from the regions where the highest co-ordinations take place—these regions being themselves, *ex hypothesi*, already in a state of pathological activity. The other hypothesis would be that

[1] Falret, *Op. cit.*, p. 269; Wundt, *Op. cit.*, vol. ii., p. 356; Krafft-Ebing, *Op. cit.*, p. 19; Griesinger, *Op. cit.*, pp. 95-6.

[2] Griesinger, *Op. cit.*, p. 97. For an auditory case, *cf.* the account, in the *Lyon Médical*, vol. xxxv., p. 437, of a young Frenchman who was rendered insane by the German invasion, and who was then haunted by the sound of guns firing.

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the mere hyper-excitability at the centre itself made it impossible for images to arise without getting hurried on, so to speak, into sensations by the violence of the nervous vibrations. This seems to be what Wundt has in view when he speaks of hallucinations as originating, not in an actual *irritation*, but in a heightened *irritability*, of the sensory centres. But then, what should cause images belonging to one particular order of ideas—the *diseased* order—to be picked out for this fate in preference to any others? The hyper-excitable centre in itself, as an arena of images, could have no ground for such a partial selection among the crowd of them which emerge during every hour of waking life. Among the endless and multiform vibrations involved, why should the excessive amplitude that corresponds to sensation be confined to a particular set? A reason must exist. The unique agreement between the sensory hallucinations and the more general moral and intellectual disorder must have its particular physical counterpart; and for this "a strong downward escape of current" is at any rate a sufficiently comprehensible metaphor.[1]

[1] Kandinsky (in the *Archiv für Psychiatrie*, 1881), agreeing with Meynert, denies this centrifugal influence, and regards the contribution of the higher (front) part of the cortex to hallucinations as something quite different—*i.e.*, *the remission of an inhibitory function* normally exercised by this part on the specific sensory regions. But he fails to make out even a plausible case. His argument that the higher part cannot initiate hallucinations rests on no better ground than his own inability, when suffering from hallucinations, to transform mental pictures into hallucinations at will; and on the further experience—which was decidedly exceptional—that his hallucinations did not correspond in any marked way with his more general mental delusions. Again, if one asks in what the effect of the supposed inhibitory function would normally be shown, it must surely be in preventing ordinary mental images from taking on the more vivid characters of hallucinations. Now Kandinsky himself admits that in normal acts of imagination the cortical sensory region is stimulated from the higher part of the cortex; hence he seems involved in the difficulty of conceiving stimulation and inhibition to proceed at the same moment from the same quarter. Nor, again, does he make any attempt to show why the supposed inhibitory function, if it is normally operative, does not equally inhibit the normal stimulation derived from the periphery, *i.e.*, normal perception of objects.

NOTE.—For some supplementary remarks bearing on this final section, see 'Notes and Correspondence,' at the end of the present Number.—ED.

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II.—PROFESSOR SIDGWICK'S UTILITARIANISM.

By Rev. HASTINGS RASHDALL.

I HAVE for a year or two past been desirous to offer some remarks on Prof. Sidgwick's Utilitarianism, but, as he was known to be engaged on the preparation of a 3rd edition of his *Methods of Ethics*, it was thought best that I should wait to see how far this might contain any modification of his doctrine. Though no substantial change has resulted in his main positions, it is an advantage to be able now to examine them in their latest form. At the same time I have, by desire of the Editor of MIND, attempted a short critical review of the new edition as a whole, noticing especially some of the additions that seem intended to guard against or to meet criticism from my own point of view.[1] This review forms the first part of what follows.

I.

In noticing the alterations effected in the 3rd edition of *The Methods of Ethics*, it will hardly be necessary to say much upon the merits of the original work. *The Methods of Ethics* has long been recognised as a philosophical classic. It is one of those books of which it is safe to prophesy that no advance in philosophic doctrine will ever render them obsolete. It is not merely a piece of acute and subtle philosophical criticism but a work of art with a unity and beauty of its own as much as a Dialogue of Plato or of Berkeley. And nothing is so well calculated to increase the reader's admiration for Prof. Sidgwick's literary skill as a comparison of the successive revisions to which he has subjected it. Every edition represents a nearer approach to artistic perfection. By far the greater number of changes in the present edition affect only the exposition of the author's views. Redundances of every kind, discussions or parentheses which might seem a little unnecessary or not obviously relevant to the main line of thought of the paragraph or the chapter, have been pruned away; while the portions of the work in which the author's fundamental doctrines are unfolded, have undergone amplification and expansion. With each successive revision the main issues stand out more sharply and unmistakably, and the arguments become closer and more telling.

[1] The MS. of my original Essay was, in accordance with a wish which he did me the honour to express through the Editor of MIND, submitted to Prof. Sidgwick before the completion of the present edition.

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In illustration of the improvements in exposition effected in the new edition, I may refer to the expansion of the argument in bk. i., ch. 3, by which the author seeks to show (against Hume) that every moral judgment, on any view either of the criterion or of the ultimate sanction of morality, involves an exercise of Reason beyond what is involved in bringing "before the mind ideas of actual or possible facts which modify . . . the resultant forces of our various impulses," and that consequently moral judgments are "objective". Prof. Sidgwick's answer to the question "whether Reason acts as a motive" is essentially the same as it was in the 1st edition. But it is perhaps made clearer than it was before that the "objectivity" of the judgments of Practical Reason does not actually *involve* an "imperative" or "precept" to do what it is judged ought to be done, though as a matter of psychical fact the cognition of such "objective" reasonableness does "in rational beings as such" give an impulse or motive to action in accordance with Reason. The applicability of the argument to every possible ethical method is more fully developed than before. Thus, while it is admitted that the attribution of moral judgments to the Reason would most naturally suggest that moral judgments are "universal truths such as the axioms of Logic and Mathematics," it is contended that this attribution is consistent with the view of those who hold that the moral faculty deals primarily with individual cases, and indeed that the term Moral Reason ought to be preferred by them to the use of the term Moral Sense, which, as Prof. Sidgwick well remarks, "suggests a capacity for feelings which may vary from A to B without either being in error". On the other hand, it is pointed out that many of those who deny that they can find in their consciousness any such absolute imperative as the author holds to be implied in all moral judgments, really mean only to deny "that they have any consciousness of moral obligation to actions *per se* without reference to their consequences": and on this view "the unconditional imperative really comes in as regards the end". The argument is then applied to the case of those "who hold that moral rules are only obligatory because it is the individual's interest to conform to them". Even on their view the "dictate of reason" comes in, inasmuch as they recognise private interest or happiness as an end at which it is ultimately reasonable to aim.[1] Finally, it is shown that "if we discard the belief, that any end of action is unconditionally or categorically prescribed by reason, the notion 'ought' is not thereby eliminated from our practical reasonings". Thus the proposition "if you want health, you

[1] *Cf.* the new paragraph on p. 106, in which it is pointed out that those who maintain that "pleasure is their good" or "the ultimate good"—"as a significant proposition not as a mere tautology"—imply "that the *meaning* of the two terms is different".

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ought to rise early" implies, besides a mere statement of physiological fact, "the unreasonableness of adopting an end and refusing to adopt the means indispensable to its attainment". Prof. Sidgwick's view as to the possibility of *irrational*, because inconsistent and self-contradictory, action on *any* Method of Ethics is here put into a new and striking form:

> "According to my observation of consciousness, the adoption of an end as paramount—either absolutely or within certain limits—is quite a distinct psychical phenomenon from desire: it is to be classed with volitions, though it is, of course, specifically different from a volition initiating a particular immediate action. . . . That Reason dictates the avoidance of a contradiction will be allowed even by those who deny that it dictates anything else: and it will hardly be maintained that such a contradiction as I have described between a general resolution and a particular volition, is not a matter of common experience."

Evidences of a certain deepening of the author's conviction of the necessity of a rational basis for Morality may be found in other parts of the book. In bk. iii., ch. 13, for instance, the greater clearness with which those strictly intuitive or axiomatic truths which (according to Prof. Sidgwick's view) form the skeleton or framework of a rational system of Morality, are defined and distinguished from the pseudo-axiomatic moral rules in which they have generally been held in solution, becomes all the more striking when compared with the somewhat hesitating tone of some passages in the 1st edition which disappeared in the 2nd. But even in the 2nd edition, though the doctrines were there, it was not brought out with quite the same lucidity as in the present that there are, according to the author, two and two only "self-evident" or "axiomatic" moral principles which must form the basis of every Rational system of Morality, *viz.*: (*a*) It is reasonable to show an equal regard to all moments of the future consciousness of ourselves and others; (*b*) It is reasonable to regard one person's good as of equal intrinsic value to that of every other person.[1] A difficulty has sometimes been expressed in grasping the main line of thought which connects the different parts of Prof. Sidgwick's work. Many readers will, I think, find it made plainer than in previous editions that the plan of the work is to show:—(1) That there are the two above-mentioned formal intuitive principles of Morality; (2) That there are no others: hence the necessity for the elaborate examination of "Common Sense" Morality; (3) That (it being assumed that ultimate good must consist in some kind of consciousness) no content can be found with which to fill in the form prescribed by the Practical Reason, except pleasure or happiness measured quantitatively.

The first two of these principles—carrying with them the

[1] I omit the qualifications and explanations which are necessary for the more exact definition of these principles.

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rejection of every Intuitional system which professes to pronounce upon the morality of actions apart from all estimate of their probable consequences—will at the present day be accepted by most of those to whom the third of Prof. Sidgwick's main positions still seems opposed to the deepest moral convictions of mankind. On the validity of the argument by which it is supported I shall have something to say later on. Meanwhile, it is worth while to point out that it seems to be granted that this doctrine does not admit of the same kind of strict logical deduction as the two former principles.

Without further noticing mere improvements in exposition, examples of which might be multiplied indefinitely, I come to what is naturally the most important and interesting group of changes in the present edition, *i.e.*, the additions introduced by way of defence or further elucidation of the author's ethical doctrines in view of the criticisms or conflicting views of recent writers. The opponents with whom Prof. Sidgwick has most frequently to contend are on the one hand the late Prof. T. H. Green, and on the other hand the school of "Scientific Utilitarianism" represented by Mr. Herbert Spencer and Mr. Leslie Stephen. I will notice the passages in which he deals with the last-mentioned school first: these form on the whole the most valuable and important addition to the present edition.

In bk. ii. ch. 6 a detailed refutation of various theories about pleasure has been substituted for a more general argument to show the impossibility of any *a priori* substitute for the method of empirical observation as a test of the felicific qualities of action. In this chapter, besides an examination of Hamilton's semi-Aristotelian definition of pleasure as the "reflex of spontaneous and unimpeded energy of a power of whose energy we are conscious," the physico-psychical theories of Messrs. Spencer, Wundt, Grant Allen and Bain are successively passed under review. The bearings of some of these theories upon Ethics is not very close; but the general purport of the examination is to show that in the present state of scientific knowledge, no guidance as to the kind of actions to be pursued or avoided with a view to the attainment of the greatest quantum of pleasure is to be obtained from Biology so as to dispense with the necessity of making a comparative estimate (however great the errors and uncertainties to which such a comparison is liable) of the probable felicific consequences of two possible courses of action—an estimate based solely upon our own and other people's experience of the actual results of similar actions in the past. The somewhat ludicrous aspect, if I may venture to say so, which such theories as the above are made to assume when exposed to the dry light of Prof. Sidgwick's searching analysis, may perhaps lead the impartial reader to suspect that the time will come when the present craze for extracting ethical theory from a study of the habits of mollusca

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and crustacea will be seen to have been as much the passing fashion of an age of biological discovery as Locke's speculation as to the possibility of solving moral problems by the aid of Algebra was the passing aberration of a great intellect dazzled by the brilliant vista of possible achievement opened out to his generation by the mathematical discoveries of Newton.

The attempt to find a scientific short-cut to the end which has otherwise to be attained by the blundering methods of Empiricism is, as has been suggested, the inspiring motive of Mr. Spencer's theory that "pains are the correlatives of actions injurious to the organism, while pleasures are the correlatives of actions conducive to its welfare". The practical outcome of such a theory is to "substitute Preservation for Pleasure as the end directly aimed at". The reasonableness of such a view—on the assumption that pleasure is the only good intrinsically desirable—Prof. Sidgwick examines in the last two sections of bk. ii., ch. 6, and again (with reference to the slightly different form given to the theory by Mr. Leslie Stephen, with whom the "health" or "efficiency of the social organism" becomes the practically ultimate moral end) in bk. iv., ch. 4. Passing over the criticism directed against the vagueness and uncertainty of the criterion of Morality thus put forward as a remedy for the uncertainties and perplexities of direct hedonistic calculation, we may say that Prof. Sidgwick's argument tends to show that the position of the "Scientific" Utilitarians really involves either—(1) The deliberate substitution of increase of population and of human longevity for happiness as the *summum bonum;* or —(2) The optimistic assumption that whatever tends to the increase of life tends also to the increase of happy life, and that Evolution must in every stage of the development of sentient beings, tend not merely towards the "survival of the fittest" but towards the production of the greatest quantum of happiness—an assumption which neither Mr. Herbert Spencer nor Mr. Leslie Stephen makes the slightest attempt to justify.

The above sketch of the line of argument adopted by Prof. Sidgwick in dealing with the pretensions of the "Scientific" Utilitarianism fails to do anything like justice to the completeness of his vindication of the old Empirical Utilitarianism as against the attempt to make Ethics a department of Biology, or at least to claim a monopoly of the right to deal with ethical subjects for those who have gone through a propædeutic of Physical Science. All that I have attempted is to point the reader to the parts of the work in which these important criticisms will be found.

In so far as Mr. Stephen shares with Mr. Spencer the belief in the bearing of the Evolution theory upon Ethics, Prof. Sidgwick's arguments apply in the main with equal force to the systems of both these writers. A large part of *The Science of Ethics* is, however, unaffected by the questions at issue between the "Scientific" and the "Empirical" schools of Utilitarianism. In the one place

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in which Prof. Sidgwick notices those parts of Mr. Stephen's work in which he descends, so to speak, from his scientific stilts, he does, I venture to think, somewhat scant justice to a theory which, coming from a writer so free from theological or conservative bias as Mr. Stephen, forms a valuable contribution towards a reconciliation between Intuitional and Utilitarian Morality, *i.e.*, his view of the Moral Law as, strictly speaking, "internal". Thus, in the case of veracity, the internal rule is "Be trustworthy," to which the external "Lie not" is merely a rough approximation. It is true, as Prof. Sidgwick contends (p. 320), that the case of a lie told in legitimate self-defence (*e.g.*, to put a man off the track whom one knows to be seeking an opportunity of robbing or murdering one) is not, strictly speaking, covered by the principle that "in the exceptional cases the mutual confidence would be violated when the truth, not when the lie, is spoken". But Prof. Sidgwick's criticism does not really touch Mr. Stephen's main contention, *viz.*, that no rule which is expressed in the form "Do this," can be formulated which will cover all the possible contingencies under which the general principle of conduct which it prescribes ceases to be applicable, while the internal rule admits of no real exceptions. A man does not become less trustworthy, or, as I should have preferred to express it, less *truth-loving*, when some conflicting duty,[1] *e.g.*, the duty of preserving life against illegal violence, requires him to make an untrue statement. It is true that the question "under what circumstances the confidence of A that I shall speak the truth may legitimately be disappointed in order not to disappoint the confidence of B that I shall defend his life and honour," is one which Mr. Stephen's explanation does not in any way enable us to answer. But Mr. Stephen's whole contention is that no *rule* can be laid down which will enable the mere calculator of consequences to decide rightly in delicate cases of conflicting duties. Let the internal rule be really observed—given a real love of truth, together with the desire to fulfil other duties—and the man will, if intellectually competent to calculate the consequences of alternative courses of action, allow their proper weight to the conflicting claims. But no external rule, or body of rules, will enable a man, however sincerely he desires to observe it, to solve such questions rightly who has not as one of the elements of his character such a

[1] It would be hardly too much to say that no *purely* personal ill consequences would justify a lie in answer even to a question which the asker had no right to put. It would be generally admitted that it would not be right to tell a lie in answer to a question intended to expose the person to whom it is addressed to mere ridicule or annoyance, though Prof. Fowler seems to lean in the contrary direction (*Progressive Morality*, p. 189). The case of anonymous authorship involves social interests of considerable magnitude, but this case seems to be met by the well-known reply, "I did not write it, and I should have said the same if I had done so".

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love of truth as to make truth-speaking an instinct upon which nothing but the plainest prevision of the social ill effects of truth-speaking in one particular instance will prevent his acting. It is possible to sympathise strongly with Prof. Sidgwick's vindication of the possibility and necessity of a casuistry based upon a calculation of the consequences of alternative courses of action, especially upon broad general issues, *e.g.*, the lawfulness of vivisection or of field sports or the expropriation of savage tribes, and at the same time to admit that character is as important a qualification for the right decision of such questions—even when the inquirer is not personally interested in their decision—as intellectual prevision of consequences. And in the case of minute and delicate questions of individual conduct, we must fall back with Aristotle upon the principle that ἐν τῇ αἰσθήσει ἡ κρίσις.

The doctrine that the true Moral Law is "internal," that its formula is "Be this" rather than "Do this," does not, of course, involve that view of morality which makes character an "end-in-itself"; but the admission of the former principle forms an important step towards the latter. Prof. Sidgwick would, perhaps, have less difficulty in appreciating the position of those who regard morality as an end-in-itself if he saw as clearly and fully as Mr. Stephen the inadequacy of a morality which limits its injunctions or prohibitions entirely, or even "primarily," to acts.

Second in importance to the new matter called forth by the publication of *The Data of Ethics* and *The Science of Ethics* are those suggested by the posthumous ethical treatise of Prof. Green.[1] In the first edition of *The Methods* Prof. Sidgwick observes that "no systematic moralist has seriously taken universal Perfection (as distinct from Happiness) as the ultimate end to which all moral rules should be explicitly referred". This passage disappeared from the 2nd edition: and in the present edition the actual existence of a method of "Universal Perfectionism," which undoubtedly represents Green's view of the moral criterion, is still more distinctly recognised. Prof. Sidgwick's most direct reply to this view is contained in bk. iii., ch. 14, which has been completely re-written. The author's main contention is that, since on inspection it is found that our notions of special virtues all contain some reference to "good" or "well-being" as an ultimate standard, we are involved in a logical circle if we make "general good" to consist in general virtue. This consequence only follows when it is admitted that the end which the special virtues promote, and by reference to which they are defined is, in the moral sense,

[1] It will be convenient for me here to acknowledge my great obligations throughout the criticism which follows to the revered Oxford teacher whose pupil no one could well have been without gaining from him something more than instruction. It is probable that I may have reproduced a sentence or two from his writings without express acknowledgement.

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"good". It might be conceivably maintained that the whole or a large part of virtue consists in the promotion of the pleasure of others, and yet that the really good thing is the benevolence, not the pleasure which it produces.[1] The fact that virtue—putting aside, for the sake of clearness, that part of virtue which consists in making others virtuous—is defined and recognised by its conducivity to pleasure, does not prove that virtue is valuable only as a means to pleasure: it does not prove even that the pleasure which the virtue produces has itself any intrinsic value or "goodness" at all. Pleasure may be the index or criterion of virtue without being its τέλος: just as its hardness is the one unfailing proof that the diamond is a diamond without constituting its main value in the eyes of the finder or the purchaser. Of course this position is only open to one who is satisfied on other grounds that felicific qualities of character are "good" though the happiness to which they tend is of no ultimate value. To the present writer (as to Prof. Sidgwick) such a position seems to be in a high degree paradoxical. The question "What should have led anyone to pronounce the conduct of the good Samaritan better than that of the priest who passed by on the other side, if the sufferings of the man fallen among thieves were no evil and his subsequent relief no 'good'?" is a question to which it is difficult to see what answer can be given. But, all the same, it is necessary to insist strongly that such a view does not, as Prof. Sidgwick endeavours to prove, involve a logical circle. In answer to the question, "What is virtue?" it is perfectly logical to reply, "To promote pleasure and felicific qualities;" and in answer to the question, "What is good?" to reply, "Felicific qualities, and qualities which produce felicific qualities in others,"[2] or rather "The habitual state of the will which results from the possession of these qualities." The position is illogical only in the sense that it is destitute of rational basis: it is, in short, a theory to which, in my judgment, we are not led by the result of a properly conducted appeal to Prof. Sidgwick's two tests of the validity of a theory of Moral Philosophy, *viz.*, to one's own "intuitive judgment after due consideration of the question when fairly placed before it: and, secondly, to a comprehensive comparison of the ordinary judgments of mankind". To my own mind the application of these two tests gives unmistakably a result midway between the respective theories of Prof. Sidgwick and the late Prof. Green, *viz.*, that the relief to the man fallen among thieves was a "good," but that the good

[1] This was certainly the view of Green, who refused to recognise pain as intrinsically an evil.

[2] I do not give this as being actually Green's answer to the question of the moral criterion: it would by itself obviously give a very false idea of his views: but it appears to me to present, even in an exaggerated form, that element in his position which is supposed to involve the logical circle.

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Samaritan's humanity was a *greater* "good"—not to the recipient of his charity (which would obviously be absurd), but both intrinsically and to the good Samaritan himself. If the logical objection raised by Prof. Sidgwick against Green's Stoicism is invalid, it is *a fortiori* invalid against the very commonplace position just stated. That this position is the logical outcome of Prof. Sidgwick's own premisses, an attempt will be made in the latter part of this paper to show.

Before entering, however, upon a brief examination of the logical basis of Prof. Sidgwick's Hedonism, I must notice one or two of his criticisms on some points of detail in Green's moral philosophy. Prof. Sidgwick succeeds in pointing out *at least* some ambiguities in Green's use of psychological terms. The most important of these is his use of the term "satisfaction". "Self-satisfaction" is, we are told, sought in all moral effort—a doctrine which, in the absence of further explanation, seems at first sight somewhat inconsistent with the principle, so strongly insisted upon by Green, of the "disinterestedness" of the desires in the realisation of which this "self-satisfaction" is sought.

Closely connected with this doctrine of "self-satisfaction" is the view that the object of desire in all cases is the "apparent good of the agent".[1] This doctrine Prof. Sidgwick criticises with some force (p. 108) as inconsistent with the psychological possibility of the state of which most men have had too frequent experience—the state of mind depicted in the famous "Video meliora proboque; Deteriora sequor". Prof. Sidgwick has no greater merit as a moral philosopher than his persistent refusal to acquiesce in any of the forms in which the old Socratic dogma, *ὅτι οὐδεὶς ἑκων ἁμαρτάνει*, is continually disguising itself.

Less satisfactory is his treatment of Green's assertion that "pleasure (in distinction from the facts conditioning it) is not an object of the understanding". Prof. Sidgwick replies in effect that it is possible to "conceive of" pleasure thus abstracted from its conditions by attending only to this one element in the total consciousness of the man experiencing the pleasure. But while it may be admitted that Green attached too much weight in the treatment of ethical questions to mere logical or metaphysical subtleties of a certain kind, as, *e.g.*, when he objects to speaking of a "sum of pleasures" as an object of desire, Prof. Sidgwick, on the other hand, appears to me not to

[1] That there is a kind of consciousness not pleasure which is the result of moral achievement, and which is superior to all possible pleasures which duty may require us to forego, I can quite understand; but to maintain that some "satisfaction" is *sought* in all moral effort seems to me to involve the mistake so commonly made by religionists who make the pursuit of "peace" or "consolation" the highest of motives. Moreover, to define this satisfaction as a "certain possible"—and therefore future—state of the agent makes it difficult to explain the motives of a voluntary martyrdom on the part of a disbeliever in immortality.

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realise how complete an abstraction is the pleasure of a rational being apart from the other elements of the consciousness into which it enters. Thus, in answer to the contention that we sometimes prefer what are commonly called higher pleasures to lower ones without necessarily thinking the former more intense than the latter, he says that "what in such cases we really prefer is no longer the consciousness itself, but either effects on future consciousness, more or less distinctly foreseen, *or else something in the conditions or concomitants of the present consciousness*". No doubt the pleasure is preferred on account of its "conditions or concomitants": the pleasure abstracted from the "conditions or concomitants" is pleasure abstracted from everything which makes it a higher pleasure, from everything which makes it commend itself to the Practical Reason as more worthy of a rational being's enjoyment than the lower pleasure. It is just because some knowledge of the "conditions and concomitants" of his pleasure always does enter into the consciousness of a rational being enjoying pleasure, that it is impossible for him, desiring as he does other things besides pleasure, and recognising it as "right" or "reasonable" for him to desire such other objects, to leave them out of account in considering the intrinsic desirability of different kinds of consciousness for himself and other rational beings. To ask what is the ultimate good for man, abstracted from his knowledge of the "concomitants or conditions" of his pleasures, *e.g.* their effect on other people's happiness, is really to ask what *would be* the good for man if he were a hog.

The passages which I have noticed will perhaps be sufficient to give a general idea of the nature and direction of the changes which the book has undergone: though they fail to do justice to their cumulative effect in increasing the interest, completeness and finish of the book. It will be seen that the alterations have been in the main literary only: the new edition represents no general modification of Prof. Sidgwick's ethical position beyond what is involved in the increased clearness and decision with which that position in itself and in its relation to other systems seems to be grasped by the mind of the author, and, in consequence, presented to the reader.[1] I hope, therefore, that I shall need no further apology for devoting the remainder of this paper to an examination of Prof. Sidgwick's fundamental doctrines, instead of dwelling at greater length on what appears for the first time in the present edition.

[1] There is, for instance, (so far as I can observe) no change of opinion so marked as that which may be traced in the author's *leaning*—he expresses no positive judgment—in the chapter on Free-will between the first two editions. If it were my object to discover minor modifications of opinion in the 3rd edition, I should look for them rather in the omissions than in the additions. But it would, of course, not be safe to assume that the author would in all cases consider as indefensible statements or modes of expression which he has withdrawn.

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II.

Benthanism has certainly the recommendation of extreme simplicity. The moral philosophy of the most voluminous of English philosophers admits of being summed up in a few sentences.[1] All desires are desires of pleasure: the motive of every action is desire of pleasure: pleasure is the only good. All pleasures are intrinsically of equal value: "quantity of pleasure being equal, push-pin is as good as poetry". Good conduct is the conduct which the collective Society endeavours to force upon individuals for its own advantage: it is the conduct which produces the greatest possible happiness or pleasure. To this principle is added the qualification, logically inconsistent with pure hedonism (according to which equal amounts of pleasure must be equally good, however distributed), that in what has been called the distribution of action for happiness "every one shall count for one, nobody for more than one".

John Stuart Mill professes to accept fully and unreservedly the hedonistic psychology. "It results," he says (*Utilitarianism*, p. 57), . . . "that there is in reality nothing desired except happiness. Whatever is desired otherwise than as a means to some end beyond itself, and ultimately to happiness, is desired as itself a part of happiness, and is not desired for itself till it has become so. Those who desire virtue for its own sake, desire it either because the consciousness of it is a pleasure, or because the consciousness of being without it is a pain, or for both reasons united." Yet he contends that "virtue not only is to be desired, but that it is to be desired *disinterestedly* for itself". (*Ib.* p. 54.) Association, the all-potent solvent which Mill had inherited from his father, is the means of reconciling this and all other contradictions between psychological dogmas and psychological facts. The saint's love of virtue for its own sake is explained as being an instance of the process by which a miser comes to love money for its own sake. So far Mill is still, intellectually speaking, a consistent hedonist, however much facts and the meaning of words may be distorted in the attempt to connect the new piece with the old garment.

But the rent left by the next patch upon the Benthamite homespun is absolutely glaring. "It is quite compatible with the principle of Utility," he says (*Ib.*, pp. 11-12), "to

[1] In view of Prof. Fowler's recent assertion that a selfish view of morality "has been ignorantly attributed to Bentham," I may call attention to Prof. Sidgwick's important new note on the variations in Bentham's opinions or mode of expressing them (p. 82).

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recognise the fact that some kinds of pleasure are more desirable and more valuable than others. It would be absurd that while, in estimating all other things, quality is considered as well as quantity, the estimation of pleasures should be supposed to depend on quantity alone." Now, of course, Bentham had included "intensity" among the qualities which determine the value of a pleasure in the hedonistic calculus. But Mill, in undertaking to explain what it is that "makes one pleasure more valuable than another, merely as a pleasure, except its being greater in amount," must be understood to maintain that the higher pleasure may be preferred although not greater in amount or intensity than the lower. And yet we are told that it is preferred "irrespective of any feeling of moral obligation to prefer it," *i.e.*, (according to Mill's principles) when there is no fear of the pains of law or opinion for neglecting to prefer it. Would it be possible to bring into stronger relief the necessity for admitting that in such a case something other than pleasure determines the will of the person who prefers the higher pleasure? If the amount of pleasure conceived to be derivable from two courses of action be the same, and one is chosen because it is "higher," the overplus of motive-power possessed by the alternative chosen must consist in something other than pleasure: the "higher" pleasure carries the day for some reason other than its superior pleasurableness: in other words, something other than pleasure determines the will and so is an object of desire.

Prof. Sidgwick completely reverses the mode of expanding in an altruistic direction the Benthamite hedonism adopted by Mill. It is because he does so that his Utilitarianism is, in an intellectual point of view, so great an advance upon Mill's: though the change of front involves some sacrifice of the peculiar unction which makes Mill's *Utilitarianism* so persuasive a book to young students of philosophy. Prof. Sidgwick sees that the admission of difference in kind among pleasures is utterly irreconcilable, not only with the hedonistic psychology (which he abandons), but with the hedonistic conception of ultimate good; while, on the other hand, the "greatest-happiness principle" defined as "the creed which holds that actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness," is not *primâ facie* bound up with the doctrine that all desires are desires of pleasure. It is worthy of note, as an illustration of the kind of progress which is to be expected in philosophy, that Prof. Sidgwick's superiority to

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Mill in the matter of psychology is due mainly to his greater willingness to learn from writers of other schools. The absolute inconsistency of the hedonistic psychology with the commonest psychological observations had been demonstrated a century before by Butler: but to Mill Butler's *Sermons* were as other sermons. It had been shown by Butler that most of our desires are desires for objects, not desires for pleasure; that, on the supposition that the motive of every action is desire of the greatest possible amount or intensity of pleasure, the worst as well as the best passions of human nature—"sudden anger" and "settled resentment," as well as love or compassion—are absolutely inexplicable. The attainment of an object gives pleasure because it has been desired; but it is only in the case of a very narrow range of desires that the object is desired because it is thought that it will produce more pleasure than the gratification of any other desire; while it is often desired (both in the case of conspicuous acts of what is commonly called self-sacrifice, and in the case of great crimes and great follies) in spite of the clearest knowledge that the attainment of the desire will involve the loss of infinitely more pleasure than it brings with it. The satisfaction of a desire is, of course, always conceived of as pleasant; but it is mere playing with words to maintain that the man who murders another to revenge an injury does so because his own previous experience or the experience of others has led him to believe that even successful vengeance (and impunity is often known to be out of the question) brings more pleasure than could otherwise be obtained in the course of a life devoted to its pursuit. The murderer knows that he is sacrificing a pleasant life for the pleasure of a moment; but at the moment he desires the object which will bring that one pleasure only, more than a lifetime of other pleasures.

Prof. Sidgwick admits as a psychological fact the existence of "disinterested affections," benevolence among the number. He rightly, however, distinguishes (with Butler, but in opposition to Shaftesbury and others) between the possibility of action motived by desire for the happiness of others and the reasonableness or obligation of gratifying such a desire in opposition to private interest. In point of disinterestedness, benevolence is on a level with malevolence. But, besides these "particular affections" or "desires for objects," Prof. Sidgwick recognises the possibility of a "desire to do what is right and reasonable as such"; in the language of Butler, of a desire to do

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what Conscience prescribes; or, in the language of Kant, of a "respect" for the law discerned by Reason. When a man contemplates himself in his relations to his fellow-men and asks what it is reasonable for him to do, he cannot but recognise that he seems made to promote public good. A reasonable man contemplating the world as an impartial spectator, uninfluenced by private desires or passions, would necessarily recognise benevolence as that affection in the "constitution or scheme of human nature" which ought to be gratified before merely self-regarding desires. To the disinterested spectator more good must appear preferable to less good, irrespective of the question whether it is A or B who is benefited, while the same disinterested Reason will undoubtedly prescribe an equal distribution of good among beings capable of enjoying it. The right course of action is that which would appear reasonable to such a disinterested spectator,[1] and to the agent himself in so far as his judgment as a rational being is unbiased by private desires: it is the course of action which, if he had to legislate for others unbiased by such desires, he would prescribe to all, the course which as a rational being he recognises as "fit to be made law universal". In this view of Duty as the reasonable course of action, and in holding that disinterested love of the reasonable may be a motive of action, Prof. Sidgwick follows Butler and Kant, who are on this fundamental point in perfect agreement. But Prof. Sidgwick (here following Butler and diverging from Kant) also recognises that to the rational being placed in the position of the impartial spectator, it must appear in itself equally reasonable that each man should pursue his own greatest happiness. When a man's own greatest happiness would have to be purchased by the sacrifice of greater happiness on the part of others, the *more* reasonable course would seem to be the promotion of the happiness of others at the expense of one's own; and an impulse more or less strongly impelling to such a sacrifice is actually felt—at least at times—by all rational beings. But, all the same, it remains something apparently unreasonable—something contrary to that order of things which a perfectly rational being endowed

[1] I am here developing what I believe to be at bottom the meaning of Butler's "principle of reflection called Conscience," and of Kant's "Practical Reason," in words not actually employed by them. The reference of moral questions to the verdict of the disinterested spectator is characteristic of another school of Moral Philosophy, of which Hutcheson is the best representative, but with this school the appeal is made rather to the emotional or æsthetic sensibilities than to the Reason of the spectator.

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with unlimited power might be expected to appoint—that the happiness of one should involve a voluntary deduction by another from his own in itself no less important happiness. (Man is made to promote public good, but no less evidently is he made to promote private good.) Hence Prof. Sidgwick, with Butler, abandons the attempt to find in cases of collision between the requirements of Universalistic and of Egoistic Hedonism any course of action which is completely reasonable—reasonable from every point of view—without the admission of theological postulates. Entirely apart from such postulates, altruistic conduct can be shown to be reasonable: it is the course which will be chosen, as the most reasonable of the two alternatives, even in opposition to interest, by the man in whom the desire to do "what is right and reasonable as such" is dominant; but such a course can be shown to be *the one and only* reasonable course, and the contrary to be completely and wholly unreasonable, only upon the supposition that there exists "a harmony between the particular and the universal Reason,"[1] that the universe is constructed upon a reasonable basis. Prof. Sidgwick certainly cannot be charged with any desire to conceal the extent of his approximation to the position of Butler and Kant. He is one with them in the point of view from which he regards the whole subject. He does not look upon the Science of Morals as a branch of Natural History. He gives up altogether the attempt to find the ultimate end of action by "induction": he sees that no accumulation of observed sequences, no experience of what *is*, no predictions of what *will be*, can possibly prove what *ought to be*. He neither dismisses the "ought" as a figment (with Bentham), nor involves the whole discussion in inextricable confusion (with J. S. Mill) by failing to distinguish between the desirable and the desired and calling a desire for the happiness of others a "desire for happiness"—a

[1] This phrase is taken from the 1st edition, but Prof. Sidgwick's statement of the absolute necessity of such a harmony to the construction of a logically coherent Science of Ethics is rather strengthened than weakened in the 2nd and 3rd editions, though he seems, rather from a desire not to intrude upon the province of theology than from any change of personal opinion, to assert less strongly, or not to assert at all, that the intuitions of Moral Philosophy actually do supply a basis for Theology. "If," he says, "we find an ultimate and fundamental contradiction in our apparent intuitions of what is reasonable in conduct, we seem forced to the conclusion that they were not really intuitions after all, and that the apparently intuitive operation of the Practical Reason is essentially illusory. Therefore it is, we may say, a matter of life and death to the Practical Reason that this premiss should be somehow obtained" (p. 504).

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mode of speaking which would allow us to define the passion of revenge as a "desire for pain, injury or death". In one word, Prof. Sidgwick shares with the father of Idealism the supreme conviction that *νοῦς κρατεῖ πάντα*. In so far as the motive of moral action in the individual is concerned, Prof. Sidgwick is in fact an "Intuitionist".

He is a Hedonist only in his view of the nature of Ultimate or Universal Good, and consequently in his view of the criterion of morality. The fundamental question raised by Prof. Sidgwick's position is the logical compatibility of a rationalistic theory of duty with a hedonistic conception of the true good or *τέλος* of man. Before discussing this question, it will be well to re-state Prof. Sidgwick's position in a somewhat more concise form.

Looking upon human nature in Butlerian phrase as "a system" or "constitution," Prof. Sidgwick may be said to find in it three distinct groups of "affections" or "propensions," *viz.*, (1) the desire for happiness or private good, or "self-love"; (2) various disinterested "desires for objects," *i.e.*, passions such as benevolence, hunger, anger, &c; (3) the desire to do what is right and reasonable as such. In the "calm moment" when a man, under the influence of this last desire, sits down to ask what it is reasonable for him to do, reflection convinces him, according to Prof. Sidgwick:—(*a*) that for himself (assuming certain postulates which upon the whole he is justified in assuming) it is reasonable to gratify, in cases of collision, benevolence in preference to self-love, but to make the gratification of all other passions subordinate and instrumental to the gratification of self-love; (*b*) that in acting for the good of others, it is reasonable to gratify their other desires or passions only in so far as these can be made subservient to the satisfaction of their desire for happiness. In short, in himself he is to recognise benevolence as having a prerogative over self-love, though both desires are rational; while in others he is to treat self-love as alone among their desires or propensions entitled to gratification. We are thus brought face to face with the central difficulty of Prof. Sidgwick's position. That difficulty lies in the assignment of a different end to the individual and to the race. Prof. Sidgwick in fact proves unfaithful to the principle which he professes to accept from Kant—not, indeed, as an adequate definition, but as a fundamental characteristic of the moral law—that it shall be "capable of serving for law universal". It is pronounced right and reasonable for A to make sacrifices of his own happiness to the good of B; yet, in considering what is B's

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good, he is to treat him as a being for whom it is right and reasonable to live solely for his own happiness, to have no desire gratified but his desire for pleasure. It is a condition of the moral law, Prof. Sidgwick tells us, that it shall be capable of serving for law universal; yet that law requires each individual to act upon the hypothesis that he is the only member of the human race subject to it. Reason, we are told, requires us to act at times in a way contrary to our interest from love of the "right and reasonable as such"; yet we are to treat all other human beings but ourselves as incapable of rational desires, as beings for whom it is reasonable to desire nothing but pleasure. Moral action is rational action; and rational action consists in promoting the gratification of the possibly irrational, and therefore immoral, desires of other people.

Of course it will be said that the Universalistic Hedonist will promote the morality of others as a means to the greater happiness of the whole. But if so, it seems to follow that that part of the happiness of each man which is inconsistent with his promoting the happiness of others forms no part of the end which the Universalistic Hedonist will seek to promote; it is no part of that which it is right and reasonable to desire; in other words, it is not desirable for him. It may be said that it *would be* desirable *if* it did not produce more loss of pleasure to others than it gains for the individual enjoying it. But that is only to say that the universal end which we seek to promote for the human race would be other than it is, were human society organised in a different way to what it is. To say that pleasure must be the only end of human life because it might seem that a life passed on a desert island could have no other object, is to seek to arrive at the true end of man by abstracting him from the conditions which make him man: it involves what Butler calls "the speculative absurdity of considering ourselves as single and independent, as having nothing in our nature which has respect to our fellow-creatures". Confining ourselves to man as he is and to human society as it is at present constituted, the admission that altruism is rational compels us, as I venture to submit, to introduce an important qualification into our conception of the happiness which we ought to seek to realise for society. The end becomes not mere happiness but a social or moral happiness—a happiness which is consistent with a disposition on the part of each member of the society to promote the happiness of every other in so far as he can do so without sacrificing a greater amount of his own happi-

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ness. Goodness would thus seem to have entered into our practical conception of the end which we are to regard as desirable for human society.

And yet we are told that this "desirable" is after all only relatively desirable—desirable as a means, not as an end; and that the only thing ultimately desirable is pleasure; consequently, the virtue which produces it forms no part of "the good" to the individual who has it. How then can it any longer be pronounced right and reasonable to allow one's actions to be governed by the "desire of the right and reasonable as such"? Does not the conviction of the reasonableness of gratifying such a desire at a sacrifice of pleasure carry with it the conviction that the satisfaction of that desire, even supposing it should fail in producing the result at which it aimed—*e.g.*, when a man risks his life in a futile effort to save a drowning man—is in itself or intrinsically "good"? If this question be answered in the negative, the existence of such a "desire of the reasonable" might still be admitted as a psychological fact, but surely, in the mind of the philosopher who has discovered wherein ultimate good really consists, the apparent reasonableness of desiring something else must vanish away: the desire of the reasonable will itself appear an unreasonable desire. And if the reasonableness of such sacrifice of one's own true good be made to depend on the prospect of attaining in another world the pleasure that has been lost in this, does not the system which began with such a convincing and fair-seeming demonstration of the reality of "disinterested motives" to right action end in the quagmire of Paleyism? What is the good of demonstrating the possibility of disinterested virtue if it turns out after all that virtue, *in so far as it is really disinterested*, is unreasonable? Looked at from the universal point of view, virtue when it becomes self-sacrificing is pure loss, so much deduction from the total "good" of the sentient creation. The world is actually, it is admitted, a community of rational beings all recognising and some obeying the obligations of altruism; yet, according to Prof. Sidgwick, it would be a better world were there no call or sphere for virtue, were it actually (with improved social arrangements) the ὑῶν πόλις that it is represented to be by a Bentham or a Paley, a Thrasymachus or a Mandeville. And yet we are told that we must believe in God and Immortality because the universe must be supposed to be a reasonably constituted universe!

Before, however, discussing the rational basis of such a Theology as is postulated by Prof. Sidgwick's system of

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Ethics, it will be well to notice the author's reply (pp. 401-2) to objections of the kind here taken:—

"It may, however, be said that the individual who prefers another's happiness to his own, on the ground that it is reasonable to do so, must regard the realisation of Reason, and not happiness, as his own Good—since we have defined Good to be what a man may reasonably desire; and that if it be a Good for him to act on this preference he must recognise it as a Good for others; so that there will be two incommensurable ultimate Goods for each and all, Conformity to Reason and Happiness. Here we must carefully distinguish a mere question of words from a question of ethical principle. The latter it will be perhaps easier to raise clearly by asking (1) whether real self-sacrifice—the sacrifice of one's own 'good on the whole' to that of others—is conceivable; and (2) whether, if so, what appears to be real self-sacrifice is under any circumstances dictated by the moral Reason and Conscience of mankind. It seems to me clear that Common Sense answers these questions in the affirmative. . . . . I follow Butler in recognising this Dualism of the Practical Reason, which I regard as an irreducible result of ethical reflection; and I consider that the best mode of recognising it is to adopt as final the distinction in ordinary use between the terms Right and Good, and say that, in the case supposed, self-sacrifice is judged to be morally right, though, *ex vi termini*, it is not judged to be Good on the whole for the self-sacrificing individual. . . . There is something that it is reasonable for him to desire, when he considers himself as an independent unit, and something again which he must recognise as reasonably to be desired, when he takes the point of view of a larger whole; the former of these objects I call his own ultimate 'good,' and the latter Ultimate Good taken universally; while to the sacrifice of the part to the whole, which is from the point of view of the whole reasonable, I apply the different term 'right' to avoid confusion."

In spite of this disclaimer, I cannot see how Prof. Sidgwick can escape the consequences of his admission in bk. i., chap. 9, that the term "desirable" is the "equivalent" of the term "good". I would especially ask the reader to compare the above-quoted paragraph with the following definition of "desirable":

"What I recognise as 'desirable' for me, I conceive as something which I either do desire (if absent) or should desire if my impulses were in harmony with reason; we may say that I 'ought' to desire it, but—since irrational desires cannot always be dismissed by voluntary effort—we can only say this in the wider sense of 'ought,'" &c.

If what I ought to desire is desirable for me and desirable = good, it follows that what is desirable for me is good for me or my good. I respectfully submit that in bk. iii., Prof. Sidgwick virtually withdraws from the position taken up in bk. i. He abandons the definition of "good" adopted in bk. i., upon which much of the force of his argument depends: and it does not very plainly appear what definition is meant to be substituted for it. What part of the connotation of the terms is there in common between the in-

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dividual's own ultimate good and Ultimate Good taken universally? If it be answered, 'Both are good because both may be reasonably desired,' we must ask 'By whom?' If that "which he must recognise as reasonably to be desired, when he takes the point of view of a larger whole," means 'that which may reasonably be desired by the larger whole,' the reasonableness of the individual's desiring it and sacrificing other inclinations to it is not made out. If the author means 'that which the individual may reasonably desire,' he has admitted that the good of the whole is desirable for the individual; in which case nothing seems to be gained by refusing to call the pursuit of this good of the whole a good to the individual. If he adopts this latter of the possible explanations of the ambiguous words "may reasonably be desired," he is really bringing back the two "incommensurable goods" to the admission of which he objects under other names. Duty is pronounced desirable, *i.e.*, good, from one point of view: Pleasure, from another. What is this but to admit that both are good, though not always in this life obtainable together? On this view, self-sacrifice does not become less real than on Prof. Sidgwick's: only it will be looked upon as the sacrifice of one's own lower good to one's own higher good, not as a state of consciousness which is wholly A's loss, and good only for B. But before this point of view can be accepted, it must be distinctly admitted that of these "incommensurable" goods one is better or more desirable for the individual than the other, and if for the individual then for any number of individuals. That this is the view of Common Sense seems clear enough. On what other grounds can we either explain or justify its emphatic condemnation of suicide in cases when it is clearly conducive to the happiness of the individual and of all connected with him? The total neglect of this palmary instance of the antagonism of Common Sense to a hedonistic conception of "Ultimate Good," of the true end of human life, is a very serious omission in a writer who appeals in confirmation of his views to a "comprehensive survey of the ordinary judgments of mankind."[1] But I would not for a moment rest my case upon this instance only; since I believe that

[1] Nothing is gained by alleging a distortion of natural moral feeling by theology. For why should it be supposed that a benevolent Creator should have forbidden to man to take the surest road to the end for which He created him? The instinctive repudiation of suicide by the religious consciousness is the more noticeable in the absence of any prohibition of the act in the Jewish or Christian Scriptures.

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all love of virtue for its own sake or unselfish devotion to the good of others implies the belief that the virtue or the benevolence is a good to the person who feels it. Once persuade mankind that virtue is fundamentally and essentially ἀλλότριον ἀγαθόν, and you will have persuaded them also that it exists νόμῳ not φύσει, that it is in short a delusion, not a reality: and with that belief in the intrinsic value of goodness will go the theological beliefs which are founded upon it.

And Prof. Sidgwick himself goes very near to admitting that such must be the case, when he comes to speak of the need that Practical Reason feels of obtaining the premiss which is to make it consistent with itself:—

> "For if we find an ultimate and fundamental contradiction in our apparent intuitions of what is reasonable in conduct, we seem forced to the conclusion that they were not really intuitions after all, and that the apparently intuitive operation of the Practical Reason is essentially illusory" (p. 504).

Prof. Sidgwick admits that the "Dualism of Practical Reason" cannot be got rid of without the admission of theological postulates, *i.e.*, of the existence of God and Immortality; just as it must be admitted that the conflict between lower and higher good is on our principles irreconcilable without the admission of such postulates. The question arises, however, whether the Hedonistic view of Ultimate Good really affords any basis for Theology,—whether it does not cut at the root of those spiritual convictions which lie at the basis of the religious consciousness.

The difficulties which the great sum of human and animal suffering presents to the belief in a 'benevolent Author of Nature' ought not to be dissembled by those who believe that Reason warrants the 'venture of faith' and who hold (with Plato) that καλὸν τὸ κινδύνευμα. But, on the hedonistic view of the true end of human life, does not the demand made upon faith become absolutely overwhelming? Can a universe have a rational purpose or constitution in which the end is only pleasure and yet in which reason daily prompts to the sacrifice of pleasure? Surely the assumption of a "harmony between the Universal and the Particular Reason" must be pushed a step further. The faith that νοῦς ἐστὶ βασιλεὺς ἡμῖν οὐρανοῦ τε καὶ γῆς never found a more eloquent or a more sober exponent than Prof. Sidgwick. But in what sense can it be said that Reason rules in a universe in which the accomplishment of its true

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purpose depends upon a systematic concealment of that purpose? It is the sole τέλος of man to get as much pleasure as possible: yet in order that he may do so, he is throughout his earthly existence, by way of preparation or discipline for the realisation of his true end in another state, to forget that end and live for a totally different one, and—strangest paradox of all—when his life becomes a burden to him and others, he is forbidden by the voice of Reason within him from taking the shortest cut to what Reason pronounces to be the sole ultimate good of himself and of the society in which he lives.

So completely does Prof. Sidgwick reverse in dealing with the ultimate *ground* of morality the Aristotelian maxim ὅτι χρῆ τὸ τέλος σκοπεῖν, upon which he lays so much stress in connexion with the *criterion* of morality. We must believe in a future life, Prof. Sidgwick tells us, because we must believe that the constitution of things is rational. And yet, according to Prof. Sidgwick, the universe is so constituted that the man who most completely succeeds in concealing from himself the true end of his being—or haply in never finding it out — will ultimately realise that end most thoroughly. *A priori* no one can deny that the universe may be so constituted; but where is the rationality of such a state of things? If we are to make assumptions, let them be such as will satisfy the logical demand on which they are founded. If we are to assume a rational order in the universe, surely the end prescribed to a man by his Reason must be his highest end. Man is so far a rational being that he is capable of preferring the rational to the pleasant. Surely, then, the reasonableness of such a preference cannot be *dependent* on its ultimately turning out that he has after all preferred the very thing which his love of the reasonable led him to reject. It may be the case that what was rejected had a certain value and would under other circumstances have been good; it may be that it is reasonable to expect the preference of the higher good to be rewarded by the bestowal of the lower also. But surely in a rational universe that which man, when he is most completely rational, desires most cannot be good merely as a means to what he desires less—in other words, it must have an *intrinsic value*. To say that "'I am to be miserable' cannot be an inference from 'I am to be happy,'" is a perfectly fair criticism by Prof. Bain (MIND II. 195) upon a theology which is founded upon a purely Hedonistic conception of the good. If, however, the end of man is goodness or a happiness of which virtue is an essential element, then it is

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not unreasonable that he should be required to undergo sufferings which may be necessary conditions of attaining that end for himself and others. While the happiness of others cannot be a rational object of pursuit to the man whose true end is happiness, the good of others may be, and no doubt is, a *part of the end* to a being whose end is something other than happiness conceived of as a mere pleasure. If happiness be the true end, a constitution of things by which the neglect of happiness should be rewarded with happiness and devotion to happiness punished by the loss of it, would be a purely arbitrary, supremely irrational constitution. But if goodness be the end without which the highest happiness is unattainable, if goodness be of the essence of the highest happiness, then it is not inconceivable that the voluntary neglect of a lower good in the pursuit of a higher may be intrinsically necessary to the attainment of that completed state of being, of a life which shall embrace both those concepts of goodness and happiness which Modern Philosophy has been accustomed to separate—the εὐδαιμονία of Ancient Philosophy.[1] If Love be indeed the one element of earthly happiness which is to be permanent, then it is intelligible enough that self-sacrifice should be a discipline necessary to fit men for its enjoyment. I will add only one further remark on this supreme problem upon which the course of Prof. Sidgwick's argument has compelled me to touch. When Butler was engaged in writing Moral Philosophy as the champion of the "disinterestedness" of virtue against the Hobbist, when he touched upon theological problems only as accessory to moral, he was satisfied with a position very much resembling Prof. Sidgwick's. Conscience or a "principle of reflection" prescribed certain conduct as rational irrespectively of the interest of the individual; his highest end was duty. The existence of conscience was to Butler the basis of theology, not theology the basis of morality. Yet when he wrote the *Sermons*, he regarded the happiness of the whole as the only conceivable end of the Creator as well as of the altruistic conduct of the individual.[2] When he came seriously to face the question of the "moral government

[1] Prof. Fowler's pages (*Progressive Morality*, pp. 93-102) on the moral criterion, while containing some wholesome criticism on "perfection of character as a test" form a welcome contribution from a reputed Utilitarian towards the popularisation of a non-hedonistic Utilitarianism, though he still thinks himself bound to assert that the pains of an evil conscience are "immeasurably greater" than any merely physical pain.

[2] See the second paragraph of *Sermon XII.* and *Sermon XIII.*

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of the world," the difficulties of such a position were forced upon his notice. The result of the ten years' thought which intervened between the *Sermons* and the *Analogy* were embodied in those chapters of the latter work on human life as "a state of discipline," which still form the most perfect exposition of that one glimpse of a clue to the problem of the origin of evil which is open to those who refuse to be led by a desire for 'reconciliation' or 'unity' and a philosophical horror of 'dualism' into some form or other of the denial that evil is evil.

The substance then of my contention is that Prof. Sidgwick's attempt to reconcile a hedonistic conception of the "good," and consequently a hedonistic criterion of morality, with an "intuitional" or rational basis or ultimate ground of morality fails. The "dualism" of Practical Reason is not bridged over, and cannot be bridged over without the admission of virtue as an element and the highest element of the "good" which it is right to promote for the whole human race. To sketch even in mere outline the view of the moral criterion to which an examination of Prof. Sidgwick's reasoning seems logically to point, and to meet the objections with which it may very easily be met, would obviously require a separate article if not a separate volume. It may be well, however, briefly to notice Prof. Sidgwick's criticism on that form of Intuitionism which makes character an end-in-itself. In reference to this theory he says (p. 393) :—

"Though from a practical point of view I fully recognise the importance of urging that men should aim at an ideal of character, and consider action in its effects on character, I cannot therefore infer that virtues or talents, faculties, habits, or dispositions of any kind, are the constituents of Ultimate Good. Indeed it seems to me that the opposite is implied in the very conception of a faculty or disposition; it can only be defined as a tendency to act or feel in a certain way under certain conditions; and such a tendency is obviously not valuable in itself but for the acts and feelings in which it takes effect, or for the ulterior consequences of these —which consequences, again, cannot be regarded as an Ultimate Good, so long as they are merely conceived as modifications of faculties, dispositions," &c.

This objection does not seem to me to come to much more than an emphatic re-assertion of Prof. Sidgwick's own position: its "obviousness" is not apparent. Character is something more than a bundle of "faculties" and "dispositions". Prof. Sidgwick would hardly maintain that the content of a good man's consciousness is nowise different from that of a sensualist's except at the very moment when he is performing benevolent actions. He has told us himself that the "adoption of an end as paramount" is "to be

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classed with volitions". He admits then the possibility of such volitions; and volitions of the two classes here distinguished enter into the whole, or (to avoid cavil) at least into the greater part, of the waking life of every human being. It is on the nature of this volitional part of the man's consciousness that moral character depends: it is the settled bent of the will towards that which is truly or essentially good, and not a mere capacity or potentiality of pleasure-production such as might be supposed to reside in a bottle of old port, which constitutes the 'goodness' or 'virtue' which is regarded as a 'good' or 'end-in-itself' by the school criticised by Prof. Sidgwick. A 'virtue' or 'faculty' is, of course (as Prof. Sidgwick urges), a mere abstraction, but only in the sense in which pleasure is an abstraction also. But for the difficulty which Prof. Sidgwick seems to make of the matter, it would have seemed unnecessary to point out that those who make 'virtue' an end mean by 'virtue' 'virtuous consciousness,' just as those who make 'pleasure' an end mean thereby 'pleasant consciousness'. If any one likes to say that, when a good state of will is pronounced desirable or more desirable than a pleasant state of consciousness, the real object of preference is a specific pleasure invariably accompanying volition of a virtuous kind, it is difficult to see what is gained by such a mode of statement for any one who has once parted company with the hedonistic psychology: but no harm will be done to ethical theory by such a mode of statement so long as it is clearly understood—(1) that the desirability of this specific pleasure does not depend upon any variable susceptibility to it on the part of those for whom it is judged desirable; (2) that the pleasure is not necessarily to those who actually desire it greater in amount or intensity than other pleasures which they forego for the sake of obtaining it.

Prof. Sidgwick's arguments against the possibility of regarding truth, beauty, &c., as ends-in-themselves might be met in much the same way. It does not seem to make much difference whether it is held that there are elements in consciousness more desirable than pleasure or whether we say that some pleasures are 'higher' than others, so long as no attempt is made to re-introduce the hedonistic psychology of Bentham under cover of the latter mode of expression. It is, indeed, an important question whether one kind of consciousness can ever be distinguished from another as higher by any other criterion than its greater conducivity to general good. This question, however, it does not seem

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necessary to answer here; inasmuch as the answer to it cannot very materially affect our practical answer to the question, What is the criterion of morality? It will hardly be disputed that what are commonly called the higher pleasures —social, æsthetic, intellectual—are more productive of pleasure to other persons besides those who enjoy them, and that indulgence in them, when regulated by sense of duty, is more favourable to the growth of strictly moral excellence than indulgence in 'lower' pleasures. Hence a greater value, apart from their intensity, will clearly be assigned to them by those who accept virtue as an end-in-itself in estimating the extent to which we ought to promote them for ourselves and others. And here I may remark, with reference to Prof. Sidgwick's objection that our two goods—virtue and happiness—are "incommensurable," that the principle of the superiority of virtue to happiness, while both are good, gives us a criterion of their relative values, and of the relative value of different pleasures when compared with each other. Happiness is not a good at all when essentially conflicting with virtue, *e.g.*, the pleasures of cruelty or lust. It is a good in proportion to the extent to which it is compatible with and conducive to virtue. Hence (though of course there will be practical difficulties in applying this or any other method of Ethics) I do not see that the difficulty is any greater on this view of the moral criterion than on any other —except upon some ascetic principle of the incompatibility of general virtue with general happiness, which is not here maintained and which is assuredly not the view of "Common Sense" in modern Christian communities. I do not undertake to say that, if pleasure *qud* pleasure were made the object of pursuit, it might not sometimes be attained by a general sacrifice of virtue; since I do not believe that the 'higher' and 'lower' pleasures can really be compared in point of mere intensity: with all who are capable of recognising the 'higher,' the belief that they are morally better more or less affects their judgment as to their preferability. But, except on questions directly or indirectly affecting the lawfulness of taking life, I do not suppose that any one will maintain that general virtue would lead to any diminution of the sum of general happiness. I do not see therefore that our incommensurable goods—except for the individual when he limits his view to his present state of existence—need ever really come into conflict.

It is not pretended that the ethical criterion here pro-

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posed will form a 'short and easy way' to the solution of difficult practical questions. The perplexities and uncertainties which beset the calculations of quantitative Hedonism have been sufficiently dwelt upon by Prof. Sidgwick. "It must be admitted," he says, "that the exact cognition of the place of each of our feelings in a scale of desirability, measured positively and negatively from a zero of perfect indifference, is at best an ideal to which we can never tell how closely we approximate." An estimate of the value of different kinds of consciousness measured (1) by their moral goodness or tendency to produce moral goodness, (2) by their pleasurableness, is an ideal also—an ever-growing ideal—like that of Hedonism; but one of which, in the present state of its development, it is as easy to get a practical working conception as of an ideal "greatest quantum of happiness," though it may not be so easily crystallised into some cut-and-dried scientific-looking formula. It has been the object of this paper to show that it is an ideal which supplies, as Hedonism does not, a logical basis for that rational justification of the individual life of Duty without which systems of Moral Philosophy must be relegated to the domain of poetry.

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III.—SPACE AND TOUCH, I.

By Dr. EDMUND MONTGOMERY.

I.

OUR thought, as it pierces deeper and deeper into the constitution of things, encounters everywhere an intense tumult of powers, a ceaseless unrest of that ultimate something of which our world seems made. The supreme marvel is: How from so much inward rush and commotion there ever can emerge into open view the phenomenal repose and even drift of our extended universe; of the firm and solid earth below and the illimitable heavens around.

On the other hand, we puny creatures, in whose steady perception all this turbulence lies tranquilly mirrored, are ourselves wholly formed and kept intact by a never-flagging vortex of vital change and agitation. How then, on so restlessly shifting a foil, is there established and maintained the seeming consistency of things? How, amidst the incessant turmoil of nothing but minutest particles, inside and outside of us, can there arise the unbroken quiescence and interminable expanse of one and the same all-containing Space?

If our thought is not to collapse in the contemplation of the infinite world without, we have to turn our gaze to the realising and revealing power within us. That inner consciousness, which carries with it the knowledge of all things, is truly a faculty of our own individual nature, insignificant as we may otherwise be. In this view, the living space-perception of which we are cognisant, this all-embracing recipient of external appearances, discloses itself as a conscious manifestation within us, as mental room inherent in our own native being,—whatever the fathomless expanse, holding the universe, may externally prove to be.

And as life, with all its living configurations, is maintained by the vortex of activities which gives shape and movement to our manifest being, it cannot be deemed irrelevant if we venture to inquire whether any of the vital processes making up this our visible individuality are so peculiarly constituted as to be able to serve as a matrix for the singular properties of the far-reaching and motionless receptacle of sensorial impressions—the Space we each of us know.

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To carry on successfully an investigation of this kind, and indeed any psychophysical investigation whatever, we have clearly to distinguish between the two totally different aspects of nerve-function—the objective and the subjective; the former consisting in the phenomena perceived by a spectator as a vital process occurring in an organic individual, and found to happen in strict correspondence with certain conscious phenomena simultaneously experienced by the subject thus observed, which latter conscious phenomena make up the subjective aspect of the same nerve-function. It matters not that one and the same individual may alternately assume both attitudes: at one time objectively observing his own vital processes through sensory channels, or thinking them as thus observed; at another time subjectively experiencing mental effects of his specifically stimulated senses, or representing in thought such effects. So far as a person is merely receiving the information which his senses convey to him regarding his own organism, he has no advantage over any other person observing the same organic facts. In this objective attitude the senses of both are stimulated in exactly the same manner, and consequently they both experience the same phenomena.

But, for all this, the two aspects of nerve-function are by no means aspects of one and the same reality or fact of nature. The neural process, which an observer perceives, is —as everyone knows—in no way identical with the corresponding mental occurrence experienced by the observed subject. A sound heard by a certain person is a fact of nature differing in every respect from the corresponding process within his nervous system as possibly perceived by an observer. Both occurrences are alike mental events, but the former, the sounds, are immediate conscious effects of the functioning entity; while the latter, the organic display, turns out to be a roundabout and entirely different effect from the same source, stimulating through foreign media the sensory channels of the observer and awakening in him a perceptive representation of its being and activity.

What we call nerve-centre and molecular nerve-function are therefore very mediate phenomena within the perceptive faculty of a spectator. The concomitant subjective event is a most direct phenomenon within the person in whom the whole process originates. As such it can in no way be shared by any other being, while oneself and many other spectators might possibly perceive the accompanying nerve-process. It is clear that the immediate experience, the sound within the consciousness of the one person, making

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up the subjective aspect of the complex phenomenon, cannot possibly stand in any causal relation to the nerve-process existing as perception within the consciousness of the other person or persons, and forming there the objective aspect of the occurrence. My sensation cannot be the effect of his or their perception, nor is it the same fact of nature. My sensation is an event awakened by specific stimulation in my consciousness. His or their concomitant perception of a brain and its molecular function is an entirely different event, awakened in his or their consciousness by quite another specific stimulation. If a causal relation has to be formulated, we shall have to say: The same unknown reality or play of powers, which stimulates the consciousness of spectators to the perception of a brain in definite molecular motion, gives also rise, in the bearer of those powers, to an altogether different set of definite conscious phenomena.

In this way the great puzzle of the relation of sensation to brain-motion, which by thinkers of most schools has been pronounced a fundamental *crux* of knowledge, receives its easy and obvious scientific solution. By the light thus afforded we may hope to gain a more correct and profound insight into psychophysical problems. Of course, the real powers, stimulating and stimulated, which awaken during their action the conscious phenomena, subjective and objective, remain here, as in every other instance, extra-mental, and therefore only inferred by means of their peculiar conscious effects.

No scientific philosopher, to whatever school of thinkers he may belong, will now-a-days assert that conscious phenomena within an organic individual take place without the concurrence of corresponding vital processes in definite parts of his nerve-system. The special question, then, before us is: What kind of vital activities would a spectator on close examination be able to detect while we are experiencing our well-known Space-consciousness?

In this inquiry we shall unhesitatingly assume the fully developed faculty of space-perception. Whoever has watched a chick, just hatched, pecking with unerring precision minute grains from the ground, or has seen a new-born calf skip lightly about, can hardly feel inclined to join very eagerly in the discussion between Nativists and Empirists. However much experience may assist in maturing in us human beings the innate vital tendency to space-perception, it is clear that the full-fledged faculty, in all essential respects, is an inborn gift of many living creatures. One organism finds itself launched into its sphere of action more ready-made

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than another, and no deep-going divergence of opinion concerning innate faculties need arise on that score. Of course, the less directly adapted to fundamental wants of the organism the specific contents of space happen to be, the more experience will be required to understand their significance. The meaning of its mother's udder is more immediately recognised by the calf, than the meaning of a rebus by us.

The true reason why investigators still insist on accentuating so positively the distinction between Nativism and Empirism is to be found in a psychological prejudice. It is believed by Empirists, somewhat vaguely, that if they can only prove a "psychical synthesis" to have been experientially established, they have therewith virtually overthrown the old doctrine of innate ideas. They think that what can be shown to be made up of experiential data cannot be transcendentally imported. It is, however, evident that Nativists of the evolutional school may very well admit a completed faculty of space-perception without the least reference to the innate ideas of former philosophies. Their *a priori* capacities rest on organically established harmonies, not on self-efficient powers derived ready-made from some supernatural source.

It would seem that sufficient insight is here still wanting on all sides. As far as I am aware, no investigator of psychophysical phenomena has yet made quite clear to himself that "psychical synthesis," as such, is a mere imaginary fiction, with no more possibility of actual existence than fireworks in a vacuum. Veritable synthesis has in every instance to be first organically established, before it can at all manifest itself as a mental phenomenon. We cannot therefore correctly speak of a psychical genesis of space-perception, either by dint of transcendental spontaneity or out of experiential data; but must seek to understand the confluence of organic faculties and vital events that render the appearance of such a thoroughly synthetic product possible. In the sphere of subjective experience, within the actuality of our "mental presence," we find only accomplished results. (See MIND XXVI.) By a systematic scrutiny of the functioning organism, we may hope to discover the vital conditions that lead to these results.

Every psychophysical inquiry centres at last in the recognition of neural synthesis, predetermined by an organised collocation of peripherally specialised and centrally concurring parts; which parts, graduated as they are in molecular complexity, manifest, in their functional activity, the structurally accomplished synthesis as a subjectively felt specific energy of their own. (See MIND XVII.)

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II.

In what does our most elementary space-discrimination consist—in the perception of surface-extension, or in the intuition of determinate distance?

My attention is riveted on some train of thought. I am scarcely at all conscious of my body. I do not know whereabout in space my limbs are resting. Suddenly a spark from the fire flies up, and alights on my hand. Instantly I am made aware of the exact spot in space where the burn occurs. My hand itself I hardly feel as yet. I could not at once tell which part of it is affected. Nevertheless, I am most positively conscious of the precise position of the hurt. It is to my left, a little in front of me, about a foot and a half below my head. I can point without looking, and unfailingly, to the very place.

When, to my great surprise and the rapid overthrow of preconceived notions, this vivid incident once actually occurred to me, I saw without hesitation that, if ever we could come to understand the intimate working of this one simple fact of mental awakening, we should have made out the foundation of space-consciousness.

First of all, it was the pain, and nothing outside the organism, that occupied so distinct a position in space. Then it became clear that this peculiar position could not have been ascertained by means of any kind of local sign attached to the particular part of skin affected; for it is well known that an acute pain effaces all tactile distinctions. And, furthermore, there was no kind of movement, no muscular function at play during the exquisitely distinct spatial discrimination. Only an isolated dot of pain occupying, just there, a rigorously fixed position in the wide expanse of potential space-consciousness.

A strange experience this when judged by the standard of our present theories:—a positive spatial perception consisting apparently of nothing but a primitive mental fact; a fact not even qualitatively characterised with regard to stimulation, nor quantitatively attuned to any outside influence. And in this bare intrinsic impression neither a specific tactile sensation, nor any kind of muscular feeling, could at all have entered as constituent elements.

It seems hardly credible that the discrimination of distance and position should turn out to be a mere elementary sensation, equivalent in itself to a subjective perception, affording the material for a complete and even a complex judgment: exactly there, thus far from my centre of apperception, to

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its left, in front of it and below, I feel a pain. Yet a few simple considerations will render it evident that this is indeed the interpretation that has to be given of the above experience.

To begin: I am quite aware that, in calling a perception "subjective" in the sense here implied, I am uttering a paradox. It is the characteristic of a perception, in contradistinction to other kinds of feeling, to constitute a self-rounded experience, signifying an outside existent. Our perceptions, awakened as they are by means of specific stimulation, represent to us the stimulating objects or powers; and their qualitative contents, as well as the gradation of their intensity, vary in keeping with the compelling influences. We take them invariably to belong, not to our inner world of self-realisation, but to the world of otherness outside of us.

These clear and thoroughgoing distinctions are, however, all subverted by our fundamental observation: a dot of pain felt, or rather perceived, at a definite outside spot in space. Here we have nothing external to our own organism, nothing distinguishable from our own selves. The sensorial awakening is not representative of anything belonging to a foreign entity. The whole phenomenon is encompassed by the limits of our isolated being. Yet it is a positive perception we are conscious of, occupying a precise and compulsory spatial position relative to our apperceptive focus. Thus the discrimination of something definite at a distance, something specifically localised in space, must be a faculty altogether organised in the sphere of our own circumscribed individuality, and not immediately implying any reference to existences outside of us.

The containing space, in which such perceptive localisations take place, is unmistakably an original, general, indefinite, but comprehensive *feeling* of our own, within whose scope skin-impressions become localised sensations, or, in in other words, whose energising through special organic channels gives rise to definite spatial specifications. How this occurs, and how it comes to pass that the reach of such an individual feeling is found to extend so far beyond the limits of the personality in which it is inherent, these are cardinal problems growing out of our fundamental consideration.

Among Experientialists it has been generally assumed, with various combinations of the same data, that the acquired knowledge of the position and motion of the parts of our body, together with the gradually established localisation of specific tactile experiences on the optically or otherwise ex-

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perientially realised surface of our skin, conspire in some way to produce, by dint of present feelings and associated memories, our tactile space-perception. But no tactile *peculiarity*, no local sign connected with the part of skin through which any spatial position is actually ascertained, can possibly form any essential constituent of our space-perception; for the same portion of skin, say the tip of a finger, can give us information concerning any attainable position in space whatever. No data, on which spatial discrimination is based, can be imparted by any specific tactile quality. The tactile peculiarity of a touching-point (of a finger-tip, for instance) must be void of any spatial value, since the sensation of touch conveyed by identical tactile elements may be felt as localised in any region of space whatever—right or left, above or below, in front or behind. Indeed, tactile sensations indiscriminately, from the softest touch to the hardest pressure merging into pain, and from a pleasant warmth to an excruciating burn, are all alike subjectively felt as localised with great precision at the very same objective spot where they are found to be actually stimulated. This coincidence, as regards spatial position, of the subjective feeling with the objectively ascertainable site of its origin is a most wonderful fact of nature, which will have to be contemplated more carefully further on. At present it suffices to understand that no qualitative or local skin-discrimination whatever enters into our original space-consciousness.

In the next place, it is not difficult to show that, contrary to accepted opinions, and leaving us still more deprived of experiential data, neither actual nor remembered muscular feelings are at all involved in original space-realisation.

We believers in sensorial impressions and their combinations have been so used, since the time of Berkeley, to look upon space-consciousness as somehow directly connected with, if not actually engendered by, conscious operations of the muscular sense, that it will require very valid arguments to make us relinquish so plausible and serviceable a synthetic material. Yet sensorial logic proves, on close examination, just as little competent to account for synthetic results within the mental presence as the logic of thought. A theory of knowledge cannot be safely based either on an exclusively psychological or on an exclusively logical foundation or on any combination of both. And this, for the simple reason that the combination of elementary data and the process which gives them their relative position and value within

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the mental presence are formative operations unconsciously or organically accomplished.

Imagine yourself lying on a soft couch, your hand resting quietly alongside your body. You are indulging in a day-dream, and have forgotten all about the actual position of your limbs, and also about the muscular movements that have placed them there. A gentle prick applied by some other person to one of your fingers makes you at once aware —without the slightest exertion or movement on your part —of the exact spot in space where the prick is received. How can the associating recollection or revived feeling of any muscular movement, in whatever way previously experienced, ever assist in this instantaneous discrimination of the definite position of a perfectly quiescent sensation? We have in our whole mental range absolutely no more immediate experience.

Now you move your hand away, and place it at rest over your head. Again you forget all about its position and the feelings that accompanied its transference from the one place to the other. A second prick on the very same portion of skin, and you feel the hurt at an entirely different part of space. What help from any kind of outgoing or ingoing motor sensations could you possibly have derived during the spatial discrimination of this transposed affection of the same portion of skin? The prick in both instances was of the same kind, and the sensory spot that received it was the same. No muscles were at all exerted during these spatial experiences. In both positions hand and arm were completely at rest. Nevertheless the sensation occupied two totally distinct and widely separate localities in space. Who will maintain that the prick revived the muscular feelings with which the hand was placed where it is, rendering conscious again the sweep it made to get from the one position to the other? It is quite manifest that nothing of the kind actually occurs. But if it did occur, it could only yield consciousness of surface-extension, of the successive positions occupied by the hand in moving from the one place to the other. What we really experience is nothing related to this. It is each time the direct position of the prick in immediate spatial connexion with our apperceptive focus. Moreover, even surface-extension is realised without assistance of motor exertions or recollections. You press a cold iron rod, six inches long, on any part of your skin, and you feel surface-extension without any possible help from motor sensations.

Particular spatial experiences are energised specifications of our potential space-consciousness. All movement sub-

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jectively felt or objectively perceived is thus constituted. Our general space-feeling is manifestly a restful, motionless phenomenon, and cannot be rightly thought of as composed of a vast number of motor experiences either psychologically blended in memory, or physiologically re-excited during the actual localisation of sensations. We have to explain the feeling or perception of movement as grounded on space-consciousness, not space-consciousness as resulting from the feeling or perception of movement. Proper feelings of muscular motion, even if anyone had ever really experienced such, do certainly not yield us any data for a psychological construction of space. And we may safely add that muscular movements, as such, do not enter as constituent elements in our space-realisation.

The two psychological factors that have hitherto been held by most Experientialists to compose space-perception have now been disposed of. It has been shown that no specific tactile and no specific motor sensation can form part of our fundamental space-consciousness. The general potential reach of our spatial feeling radiates in all directions from our focus of apperception, receiving its conscious actuation from the more or less intense sensory stimuli that are always at play; receiving it probably in a vague, subconscious manner even from the mere vital processes in the sensory organs, irrespective of special stimulation. An intense energising of the focus of apperception from some stimulated part, with non-inhibition or with voluntary yielding to its awakened consciousness, constitutes attention to the sensorial affection. The sensorial affections themselves form the so-called content of space. And in the primitive and unitary act of sensorial discrimination the precise position of the sundry sensations is immediately known. Perceptual objects are altogether made up of specific sensorial positions.

III.

Sensorial impressions originating at normally immovable parts of our body are subjectively located where the terminal points of the sensory nerves objectively rest. If I artificially dislocate some part of normally immovable skin, and then prick it, I feel the prick, not where it is now being applied, but at the spot in space where it would be situated had the skin been left in its normal position.

The experiment can be easily made, and is very striking. On breast, back, arms, legs, anywhere in fact where stationary skin can be displaced, let the shifted portion of skin be

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held in an abnormal position, and a steady impression made on it with something pointed. Keeping your eyes closed, try now rapidly, or even quite deliberately, to touch the affected spot with the tip of your finger. You will, in your first attempts, hit the place where the affected spot would naturally rest; a place perhaps more than an inch distant from where the impression is really made. When the skin is not artificially displaced you, on the other hand, infallibly hit the very spot affected.

This feeling of impressions at quite another place from where they are actually stimulated, is surely a very remarkable experience, proving how completely subjective localisation is due to specific energies centrally organised. The congruity of the subjective and the objective space-realisations, so astonishingly accurate under normal conditions, fails when the organised relations have been changed by artificial transposition. The subjectively felt position and the objectively stimulated spot no longer cover each other. The impression is felt not where the sensory point is actually found to lie, but where it normally ought to lie. This shows that the peripheral neural process, no matter where it takes place, is so organised as to stimulate the centres with which it is connected to a specifically pre-arranged function, which function becomes conscious to us as a definitely settled position of the experienced affection—a position coinciding through pre-established harmony only with the normal site of the affected spot.

The information conveyed in this experience is highly important. It implies that the impressions, propagated to the nerve-centres through the sensory nerves of unmoving skin, possess centrally a specific and inalienable spatial value in relation to each other, a value not influenced by any shifting of their objective position. And this leads to the conclusion that every position in space is qualitatively distinguished from every other position. Space is, therefore, not—as often supposed—a continuum made up of, or decomposable into an infinite number of quantitatively equal parts. It is, on the contrary, a specific whole of which each fragment rigorously forms a definite and different integrant part, and not merely a constituent element, itself spatially indifferent. Vital space is, in fact, a qualitatively graduated expanse, not, as conceptually assumed, a quantitatively measurable magnitude only. This is evident, even to immediate perception. For why, we may ask with Kant, does the left glove not fit the right hand? Indeed, what other meaning but a qualitative one can be attributed to the dis-

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tinctions of right and left, above and below, in front and behind? The periphery of our perceivable spatial sphere we find to be illimitable. But starting from our apperceptive focus, every position within this sphere is specifically fixed in relation to every other position. Our construction of an imaginary objective space, though it abstracts from the centralising limitations imposed by our individual focus of apperception, cannot rid itself of the solidarity and mutual dependence of spatial positions. This becomes obvious in the predetermined necessity of geometrical relations, and in the reference of ascertained positions to some fixed point and its rectangular co-ordinates. It becomes obvious also in the impossibility of establishing physics as a science of forces objectively disposed in space, apart from subjective modes of apperception.

By looking upon objectified space as if each of its positions were simultaneously and most directly realisable by an apperceptive and visual focus, we form constructive images of objective shapes and objective space-relations as if viewed all at once, in one and the same apperceptive moment, and in the most advantageous situations that our own organs of space-realisation are able to occupy. This imaginary construction is justified by our movable relation to the constraining outside influences. But each act of genuine space-perception is nevertheless truly perspective, and thus qualitatively defined in relation to our body and its sensory surface.

The organised spatial value of tactile impressions had already been made clear in the fact discovered by Prof. Croom Robertson and recorded in MIND I., 145. Holding a rounded body between your crossed fingers (a knitting needle will be found very appropriate), you do not only feel the body double, as Aristotle already knew, but the sensorial impression, emanating from the finger-tip, naturally lower in vertical position, which has been artificially placed uppermost in objective space, is felt "as coming in lower down" in subjective space. The sensations arising in the two finger-tips have spatial values definitely fixed in relation to each other, which values are not changeable through artificial transposition.

But here, in connexion with voluntary movable parts, we reach the complication in organic space-derivation, which may well be considered one of the greatest puzzles of psychophysical science. You turn your hand, with its artificially crossed fingers, round its axis, so that the finger-tip, which was first uppermost in objective space, comes now to occupy

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the downward position, and—strange to say, when introspectively regarded—its sensorial impression comes in, this time, higher up in subjective space than the sensorial feeling from the other finger-tip, now occupying the uppermost position in objective space. The cause of this reversal of the subjectively felt positions lies evidently in the changed posture of the entire hand in objective space. The sensorial feelings emanating from the tips of the crossed fingers, so unchangeably related to each other with regard to their respective spatial values, are nevertheless somehow strictly dependent in their combined specifications within subjective space on the position of the hand, and therewith of the entire finger in objective space. When the body of the finger occupies the uppermost position in objective space, we feel the sensorial impression uppermost, though its tip may have been artificially placed beneath the tip of another finger. When the finger itself occupies the downward position, then we feel the sensorial impression at its tip lower down than that at the tip of another finger artificially placed beneath it.

These peculiar spatial experiences, connected as they are with the objective posture of normally movable parts of our body, modify essentially the spatial experiences connected with the normally unmoving parts of our body. We have seen that, if we displace a portion of naturally unmoving skin, the sensorial impression received from it is localised where the affected spot normally rests, and not where the stimulus has now been applied. But let one of your fingers, without any muscular exertion on your part, be artificially moved by an outsider, who forcibly shifts it to some other place, and you will feel a sensorial impression on it exactly at the spot where the stimulus is now being applied, and not at the spot where the finger rested before being shifted.

Here the localising specific energies of the nerve-centres are manifestly not organised in relation to permanently settled positions of definite portions of skin. On the contrary, impressions on the skin of movable organs are felt at whatever place in objective space the affected skin happens to be; the subjective feeling of position shifting under these conditions in exact correspondence to the objective position of the movable organ.

We have found reasons to conclude that the localising energy of subjective space-realisation is inherent in the nerve-centres, and not in peripheral structures. Consequently we shall have to seek for the cause of the shifting of this localisation as occurring in connexion with movable

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organs, not in peripheral arrangements, but in central activities.

A movable organ, the entire arm for instance, has to be looked upon as a member physiologically partly independent; in fact, as an appendage inserted into our main body, and there centrally unified, its fingers forming so many more subordinate intercalary appendages. This view is corroborated by the teachings of organic development. The sensorial impressions originating in the normally movable sensory surface of such an appendage, one may look upon as inserted into the sensorium of the main body; its spatial positions, as inserted into the common and all-embracing space of individual consciousness.

The amplification of reach accruing to subjective space-realisation by such an arrangement is manifest. All objective positions attainable by the sensory surface of such appendages or limbs are subjectively realised, on stimulation, as corresponding distances and positions. Thus the sweep of our individual space-perception is enlarged to a very considerable extent. How completely the positions subjectively and objectively connected with the appendages have in the course of development become harmonised with the subjective and objective positions connected with our main body, may be recognised in the manifold spatial congruities which disclose themselves on our touching one part of our body with any other part. I place the tip of my finger on my chest. The subjectively felt position stimulated in the tip of my finger through contact and the subjectively felt position stimulated in the touched spot on my chest coincide accurately, though the one position is realised through the sensory nerves of the arm, the other through the distant sensory nerves of the chest. One and the same identical spatial position is energised through two widely separate and totally different neural channels. This exquisite sensorial adaptation and concurrence is paralleled by the corresponding perceptual adaptation and concurrence constituting the objective spatial coincidence of the points here touching each other. A spectator, quite unconscious of the spatial positions subjectively felt by me, perceives that the tip of my finger is touching a certain spot on my chest, that the objective points in contact are occupying one and the same identical position in objective space. It is a manifold coincidence which becomes here manifest; a coincidence of one subjective position with another, a coincidence of one objective position with another, and a coincidence of both subjective positions with both objective positions.

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Considering that movable organs are particularly adapted for the establishment of complex connexions with the outside world, and that it is their normal function to establish such connexions, the conclusion will be admissible that the sensorial information conveyed by such organs has been moulded on outside influences. It was Prof. Vierordt who, on the strength of many accurate experiments, first formulated the law that those parts of our sensorial surface which are most mobile possess also the most accurate tactile discrimination of discrete positions; that, in fact, such space-discrimination may be regarded as a function of the mobility of the feeling part. It is through the finger-tips, the lips and the tip of the tongue that in direct contact we mostly discriminate the position and spatial extension of outside things. It is in keeping with the adaptation of mobile organs to extraneous uses that we find their stimulated feelings of position—in whatever posture they themselves may happen to be—in accurate agreement with the objective position of the stimulating influence. With the same sensory spot I touch at one time something quite near by, at another time something a yard off. In both instances my subjective feeling of position coincides exactly with the objective position of the thing felt. It is this faculty of mobile organs, enabling one and the same sensory point, merely by a change of its own posture in objective space, to realise positions all round,—it is this marvellous sway of efficiency, rendering the sensorial capacity of such points all but ubiquitous, that has to be steadily kept in view, in order that some insight may be gained into the hitherto unravelled intricacies of space-perception.

You lay your hand on a horizontal surface, and you feel a complex of horizontal positions. You lay it on a vertical surface, and you feel vertical positions. So throughout all the directions of space. In every instance, it is the same sensory surface you apply, yet the subjectively felt positions vary accurately with the objective positions of the feeling organ. When with your finger you trace a horizontal line, it is horizontal positions you feel; when a vertical line, vertical positions; and, again, when you happen to trace the third dimension, theoretically so mysterious, it is distance or depth you distinctly realise as subjective feeling.

It is evident that the sensorial impressions originating at the very same sensory points in all these different situations can receive only through some central process their entirely different spatial values—values found, moreover, to vary and to coincide accurately with the objective posture of the ex-

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ploring organs. The central substance, which in the different positions of the exploring organs reacts so differently on the same sensory stimuli, must necessarily be each time in a different condition. In what way and through what means has it been modified? This is clearly a biological and not a psychological question. We shall revert to it further on.

IV.

In common external experience, a sensation comes to form part of a percept when, together with other actual or revived sensations, it gives a realisation of the influences which an outside existent is able to bring directly to bear upon us. The germ of such externalising and objectifying perception is, however, already contained in our most fundamental experience of distance and position. A feeling, arising altogether in our own individuality irrespective of outside powers, is accurately located; which means that it is externalised and spatially objectified in relation to our focus of apperception. The objectively ascertainable or organic cause of this phenomenon is to be sought in that collocation of the nerve-system through which all peripheral nerve-processes are brought to a focus. But such a structural disposition does not really explain why within the realising mental presence definite distances and positions should sensorially and perceptually reveal themselves. Indeed, in contemplating this mental experience, we become aware what a very indirect and opaque illumination is afforded by the objective aspect. Stretch your arm out, and a prick on your hand will be felt a long way off. Hold your hand close to your head, and a prick on the same spot will be felt near by. The same length of the same nerve has been traversed by the stimulation in both instances. Yet one of the functions or outcomes of this neural activity, the felt distance, is found as such specifically and enormously to vary. Moreover, you do not feel anything along the course of your nerve. You feel the sensorial impression only at what turns out to be the terminal points of the nerves on the sensory surface. The space intervening between these points and the apperceptive focus appears to your immediate perception quite empty, which means completely void of feeling. We experience a sensation a yard or a few inches off, and nothing whatever between.

Here we have evidently before us the display of specific energies residing within central nerve-structures, an innate spatial reference of centrally experienced sensations to where

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the stimulus has been applied. We feel the complete spatial sensation as a specific central energy localised where the objective aspect teaches us that it has, or ought to have, been awakened. This conjecture derives much confirmation from the fact that the effect of the stimulation of a sensory nerve anywhere along its course is always felt only at its terminal points; indeed, the stimulated effect in the sensory tract of an amputated limb may be accurately felt where it normally ought to be, though nothing is now there but insensible and "invulnerable air". Here no objective aspect corresponds to the subjective feeling of distance and position. It is all a creation of central nerve-powers. For the understanding of the fact of felt distance, especially where, as in sight, such distance reaches beyond the sensory surface, it is most essential to bear in mind that we have here before us the play of central energies, but energies nevertheless quite obviously organised in strict relation to outside influences.

The next step in the perceptual development or composition of sensation may be traced in the experience of linear extension. Let two impressions be made simultaneously on two remote parts of our skin, and we find ourselves capable of feeling at one and the same time the distance and position of both sensorial impressions. It is true our attention tends to fix the apperceptive focus now only on one and now only on the other impression. But, as in the simultaneous realisation of distant and unfocussed points in visual experience, we possess the power of becoming conscious of two or more tactile impressions in one and the same act of apperception. All this is accomplished subjectively. Yet, as stated before, incipient perception is here already at work in the externalising and objectifying of the sensorial impressions.

A further advance in the way of perception consists in the voluntary direction of the focus of apperception. We are able, at will, to let our concentrated attention wander from one impression to the other, and thus to connect two distant points of perceptually unblended sensation with an imaginary line. This imaginary line is established by representing it as filled with an unbroken continuity of sensation such as would be actually realised if we were to apply a continuous line of stimulation to an even length of skin. In our present state of organisation it is, however, highly probable that the voluntary direction of our focus of apperception is so intimately connected with the movements which direct the focus of vision that the line traced by the focus of apperception is actually filled up by specific ocular sensations, repre-

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sentative of tactile sensations. The perception is completed when the line of sensation is made up of specific tactile impressions, such as are normally stimulated by definite outside powers. It is entirely detached as an objective thing when the apperceptive sweep is reinforced by the accompanying voluntary movement of peripheral organs, themselves objectively realisable, such as hands and eyes.

What we become immediately conscious of in space-perception remains, under all conditions, nothing but felt positions; nothing but individual space-consciousness actualised by sensation. We cannot rightly say that such sensorial experience occupies or fills space. By force of its own nature it is itself the realisation of space—soft or hard, dark or coloured space. Perceptual things are not contained in space; they constitute themselves qualitatively specified parts of space. Subjective spatial sensations, when specifically stimulated, continue to be spatial all the same, but become, moreover, normally representative of outside existents. This cold and hard line pressing on the palm of my hand is primarily only a line of sensation of definite length and position, realised in relation to my apperceptive focus. All this is in itself nothing but a sensorially actualised spatial experience. In addition to this, through the specific tactile qualities of such a line of sensation, I am made aware that it is a foreign object, probably the edge of some metallic thing that is thus affecting me. This additional recognition, however, does not alter the fact that the spatial experience is wholly constituted by sensation. The congruity subsisting between such an immediately felt spatial actualisation and the objectively measurable length of the pressing object, is a coincidence between facts of nature that are in no way logically related to each other, but naturally and intimately connected together as stimulating influence and stimulated effect by means of an organically pre-established correspondence.

The perception of surface-extension is realised by similar steps. Its relation to the sensory surface has been accurately studied by Weber and many other investigators. Its foundation consists likewise in the simultaneous and coalescing apperception of the stimulated effect of a number of adjoining and peculiarly disposed sensory points all energised together. Another person presses something on the surface of my hand. Of this action, however, I know immediately nothing. Now, suddenly I experience the sensation of a square, or rather my present complex of sensorial impressions energises my potential space-feeling in the shape of

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what we call a square. This experience may be immediate and purely subjective, unsharable as such by any other person, and also not necessarily and directly representative of any outside object. A burn or a pain, obliterating all qualitative characteristics attributable to outside things, may be in itself thus shaped.

While, however, under such conditions we are feeling in the form of a square, an observer may perceive a congruent square either formed by the stimulated surface of our skin or by the surface of the thing stimulating it. He cannot perceive the square within our consciousness, nor has this our mode of consciousness the slightest influence on his perception of a square. Yet the extra-mental existents, the skin and its specific stimulus, which by their action incite our own mental image, produce also, though by more complicated means, his congruent mental image. He may perceive the objective and congruent square either by touch or by sight, and we, when we assume the objective attitude, when we use our tactile and visual apparatus, may do the same, thus corroborating and fortifying objectively our immediate sensorial experience.

The realisation of a sphere or cube, or any other form of three dimensions, is accomplished by a further complication in the apperceptive blending of felt positions. Only here the actual sensorial experience constituting circumscribed form can, in most instances, not be simultaneously energised, but has to be complemented by an indirectly reinstating process, which mentally discloses itself as remembrance, imagination, and representation. This constructive filling-up takes place in touch as well as in sight, only with different combinations of the constituents entering into the composition of cubic forms. Distance or depth is, however, at least as direct a sensorial experience as length or breadth. Hold your hand out straight before you, and you will feel immediately a touch on your finger as more distant than a touch on your arm. Look at the floor of your room, and you are visually aware of distance in the same immediate way. The visual experience is naturally adapted to the horizontal plane at our feet, and has to be explained in relation to it.

In all instances of space-discrimination or space-construction, immediately felt positions form the ground-work, but it is due to pre-established congruity of the external influences with our internal experiences that such subjectively felt positions are found accurately to coincide with their objective realisation.

(To be continued.)

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IV.—DISCUSSION.

EXPERIMENTAL PSYCHOLOGY.[1]

By Professor G. Stanley Hall.

Experimental psychology properly begins in the physiology of the excised nerve and the striated or voluntary muscle. The action of the latter is the only exponent we have, except the wave of negative electrical variation, of what takes place during the transmission of a psychic impulse in the fibre, which Henle thinks even more important for it than the nerve-cell itself. For a long time after Galvani's discovery of the marvellous reanimation of these tissues by contact with two dissimilar metals, scientific men no less sagacious than Humboldt, who recorded two volumes of now worthless observations, thought themselves near a demonstration of vital force. The problems that thus arose really became accessible only after the invention of the multiplicator and the double astatic needle, which were first combined in their study by Nobilis in 1826. Since then Du Bois-Reymond and Matteucci, whose work the former strangely underrates, and many younger investigators, have explored many effects of several stimuli under varied conditions, which no one interested in the study of voluntary movement can safely ignore. The facts are too complex and the theories at present too unsettled and conflicting for exposition here. Whether it be right or wrong, it is the hypothesis that the nerve-muscle preparation is only a mechanism with no vital principle in it, and could be made to give (although results have, it must be confessed, been often less exact than was hoped for) perfectly constant curves and currents if all its conditions could be controlled, that has prompted nearly all work in this field.

When nerve-cells occur between the stimulus and the muscle, we have what is called reflex action, from the curious conception of Astruc, who first used the term, that impressions going inward along the hollow nerve-tubes struck the smooth, inferior surface of the *corpus callosum*, and were reflected outward along motor tubes with equal angles of incidence and reflection. In its modern sense this term now designates one of the most fundamental categories of physiological psychology; and its needlessly laborious demonstration by Bell, because studied on the cranial instead of the spinal nerves, in 1821, and by Magendie independently later, marks the most important epoch in the history of neurology. It

[1] Extract from Introductory Lecture on "The New Psychology," delivered at the Johns Hopkins University, Baltimore, last October; here reprinted from full report of the Lecture in the *Andover Review*.—Ed.

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was made just at a time when anatomists were disheartened by the apparent lawlessness of the nervous system, and were turning back to Haller and even Galen, and aroused at once—especially when introduced into Germany by Johannes Müller in the next decade—the greatest interest and activity. Even neural anatomy, which had made little progress since the great brain-dissectors of the seventeenth century, was resumed in epoch-making works like those of Van Deen and Stilling on the spinal cord, and physiology began to go beyond the microscope in Türck's determination of the peripheral distribution of each pair of sensory spinal nerves. There were speculators who objected that to give a solid structural basis to the distinction between sensation and motion, instead of admitting that all fibres mediated both, was to restrict the freedom of the soul, and to dualise, if not to phrenologise, it into a posterior and an anterior soul (rather than a right and a left brain-soul, functioning alternately, as Dr. Wigan had said). The researches on inhibition begun by Setschenow, so suggestive for the study of the negative field of attention, if not of hypnotism; the light shed on the problem of automatism *versus* a psychic rudiment by the observations of Marshall Hall and of Pflüger; the studies of Ludwig's school; Wundt's explanation of his observations, which, however conjectural, has the great merit of unifying many partial hypotheses of ultimate nervous action; the ingenious experiments of Goltz, and scores of other special studies of various aspects of reflex action—have cleared up and made more tangible many important psychic concepts. Unscientific as it would be to assume with Spencer, who writes without knowledge of these or of German researches generally, that a "reflex arc" and its function is the unit out of which brain and mind are compounded, still it is easy to conceive the former as a complex reflex centre of many mediations between the senses and the muscles, and human faculty in general as measured by the strength, duration, freedom, accuracy and many-sidedness of our reactions on the various stimuli which reach us.

Consciousness itself was first subjected to methods of exact experiment by E. H. Weber, who published the results of nearly twenty years of the most painstaking observations on the senses of touch and pressure in a monograph of almost ideally perfect form, written and rewritten in German and Latin, more than fifty years ago, and who wrought out the first form of the psychophysical law, the exact application of which is now reduced to very narrow limits. The study especially of the retina—genetically a part of the brain and in a sense the key to its mysteries and an index of its morbid states, itself now so accessible to observation, and its functions to experiment—has enabled us to penetrate into the problems of visual form and colour, and in connexion with touch (under the long tuition of which vision is educated in our infancy, till it finally anticipates, abridges and reduces its pro-

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cesses to a rapid algebra of symbols) has brought us into far closer quarters with the nature and laws of motion, reality and space itself, than Locke, Berkeley, Hume or Kant could penetrate. Not only physiological optics, but acoustics, is now almost a science by itself. By their psychic chemistry, elements of mind long thought simple and indecomposable have been resolved into ulterior components. This analysis Helmholtz, a few years ago, characterised as the most important scientific achievement of recent times, which have seen many philosophic themes till lately thought accessible only to speculation enter the laboratory, to be greatly cleared up by restatements and often to be solved. The difficulties of experimenting on smell and taste, dizziness and the muscle-sense, are being slowly overcome, and new sensations, such as local signs and innervation-feelings—no more accessible to direct experience than atoms—are postulated. All who have absorbed themselves in these studies have seen the logical impossibility of every purely materialistic theory of knowledge.

Another line of research which has greatly aided these must be mentioned. The rapidity with which neural processes traversed the nerves was thought by physiologists of the last century to be near that of light or of electricity. In 1844 Johannes Müller declared that their rate could never be measured, and Du Bois-Reymond published his great work on the electrical properties of nerves and muscles in 1849 with no mention of the subject; yet the very next year this velocity was measured, with much accuracy, by Helmholtz. Now the personal equation (or the shortest possible time intervening between, *e.g.*, the prick of an electric shock on the surface of the first finger of one hand, and the pressure of a key by the other, occupying perhaps fifteen one-hundredths of a single second) is resolved into several elements, enabling us to measure with great chronoscopic accuracy the time, and by inference the complexity and familiarity, of many simpler psychic processes, and to explore many kinds of memory, association and volition under the action of attention, toxic agents, fatigue, practice, age, &c. When we add to this the rhythms, beginning perhaps with a fine intermittency in all nervous action, breaking vocal utterance into articulation, cadence and rhyme, and widening into the larger periodicities now just beginning to attract attention in health and disease, it is plain at least that the old treatment of time as a simple form or rubric of the sensory was perhaps still more superficial than that of space, and that those who still persist in speaking of acts of human thought as instantaneous, or even independent of time, may be asked to demonstrate at least one such act or thought. Although thus far chiefly applied to the study of elements fundamental to consciousness rather than to its more complex processes, these methods are now rapidly multiplying and extending their scope, and even apart from all results have a quickening educational influence on all who seriously work them as a unique field of applied logic.

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The brain itself, the most complex and unknown of all the bodily organs, is now studied with as much specialisation of both field and method as modern astronomy. If in one patient the right arm is lost or paralysed, and after death certain bundles of fibres and certain cortical areas are found decayed, the inference that they are connected is strong. It is still stronger if conversely in other patients brain-lesion, by wound or tumour, causes loss of function in the arm; and stronger still, if these fibres acquire their medullary sheath before others around them in the embryo, and can be traced from the arm to the same part of the cortex. By the consilience of these methods, supplemented by physiological experiment on animals, and in part by patiently tracing normal fibres with the microscope, approximate localisations of brain-centres for the movements of the legs and, especially, the arms now seem established. General centres for speech and, perhaps, vision, though subject to individual variation and not sharply defined, now seem also made out. Munk's distinction between central and penumbral spheres; Meynert's bold designation of the arched fibres that join convolutions as association-fibres; a mild form of Goltz's theory of functional regeneration; the ascription of either commissural, reproductive or balancing functions to the cerebellum, and of motor mediation mainly to the striate and sensory to the thalamic body seem, if less certain and resting on very different kinds and degrees of evidence, now very probable. So far, the temporal regions of the brain seem most and the frontal region least crowded with functions liable to decay, and sure to show functional impairment from slight lesions. The range of individual variation, and how far we may infer from experiments on animals to man, is by no means made out. Experiment and disease show that there are psycho-neural processes localised in fibres that can be approximately counted — as those of the optic nerve and the cervical cord — and dependent on the integrity of specific cell-groups, which no one who knows the facts, now easily shown, could think due *only* to an imponderable principle mediating freely between parts without necessitating connexion of tissue. But if all cells and fibres involved in each act of the mind or emotional state might be conceived to be numbered and weighed, and all the circulatory, thermal, chemical and electrical changes exactly formulated, the sense of utter incommensurability between these objective relations and the closer, more intimate consciousness of such acts and states would be sufficient as a corrective of materialism and as a positive justification of an idealistic view of the world.

The study of symptoms and abnormal states of every type and degree has also lately received new impulses. Painstaking monographs are now multiplying on such subjects as the periodicities of the insane; detailed explorations of the mental states of individual lunatics, with the history of each illusion from its inception; or extended comparative studies of single deliriums, as of

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persecutions or of greatness; the writing or drawing of the insane; the complex psycho-physics of epilepsy, with all its finer shadings up into perfect health; the detailed elaboration of manifold types of aphasia; or again the special psychology of each crime-class; biographies and family histories of great criminals; the study of the blind, deaf, pauper types and other defectives, and of dreams. Nothing is just now more needed or more promising here than a comparison of carefully taken psychic observations of cases of acute mania with the cortical discolouration which commonly attends it. The successful student of these states requires the rare combination of an insinuating, sympathetic temper, of a perhaps itself infinitesimally neurotic type, with power to trace all morbid psychic phenomena in others to and identify them with fainter experiences of his own, along with the most objective discriminating sagacity. The infection of these states is so subtle in imaginative minds and the *katharsis* so long and serious that they should be undertaken by the general student of psychology very rarely or not at all. Yet all who would teach or profoundly study the laws of mind must now know something of its disease-forms, both for their high practical and their pedagogic value; and all our public institutions where these unfortunate classes are gathered should offer every facility and encouragement to competent observers. Even a course of reading in psychiatric literature is now sure to transfuse and reanimate several quite atrophied departments of mental science.

Experimental psychology, in fine, seeks a more exact expression for a more limited field of the philosophy of mind (while widening its sphere to include the physical, emotional and volitional as well as the intellectual nature of man), to which its fundamental and, in the future, conditionary relation is not all unlike that of physical geography to history. Baconian, or, more historically, Roger-Baconian, methods, after reconstructing thought in other fields, are at last being applied to the study of those qualities and powers by which man differs from animals, and which in medical study and practice have been of late far too much ignored, and by metaphysics far too exclusively considered. The time was when the doctor, who can see human nature in its weaknesses and extremes no less transparently from his standpoint than the clergyman from his, studied to control the mind and heart and imagination of his patient, instead of leaving this to quacks, as well as to drug his body; when, before the power to take the *whole* man into account had been lost in easier micrologic medical specialties, he really deemed nothing human alien from himself, and often merited the Hippocratic beatitude, "Godlike is the doctor who is also a philosopher". This part of psychology has been termed medical and physiological by Lotze and Wundt respectively, who have tried to compile its results, and surely merits the high place it is now winning in the best medical as well as philosophical courses of study, and unquestionably has a great future before it.

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FEELINGS OF RELATION.

By Richard Hodgson.

Prof. William James, in his suggestive article "On some Omissions of Introspective Psychology" (Mind XXXIII.), has eloquently urged the claims of "feelings of relation". A full appreciation of those claims will, I venture to think, lead Prof. James one step further—to the recognition of different *levels* or *planes* of consciousness, and thence to the recognition of qualitative differences between ultimate relational feelings, according as they concern primary feelings on the same plane or primary feelings on different planes. But I propose now to consider briefly the views of several writers on those "feelings of relation" which Prof. James has emphasised. As advocates of one view we may take Condillac and the late Alfred Barratt; as advocates of an opposed view—that which I understand Prof. James to hold—we may take Dr. Brown and Mr. Spencer.

Perception, in Barratt's view (*Physical Ethics*, especially Appendix 3) is the compound state of consciousness produced by the excitation of two sensations simultaneously. In its first stage he calls the compound state a *mixed sensation*. The mixture of two different simple sensations produces a *sensation of difference*. The combination of two sensations of difference produces a *perception of resemblance*. Comparing this with Mr. Spencer's view, we find that what Mr. Spencer calls a relational feeling, or a feeling of relation, *viz.*, the transitional feeling between the two sensations, Barratt calls a compound state consisting of the simultaneous excitation of the two sensations. Both are agreed as to the presence of this third state, but differ as to the analysis of its content. Or rather, Mr. Spencer finds that it transcends analysis; Barratt thinks he can analyse it. Barratt speaks of the *idea of resemblance* as being "formed by the coalescence of two portions of the same sensation, namely, of that following upon the second change which neutralises the first, and of the residue of that which preceded the first change, and which, owing to the retentiveness of tissue, remains still impressed upon the consciousness". Mr Spencer writes as follows (*Prin. of Psych.*, ii. 284):—

"Accurately speaking, therefore, a relation of likeness consists of two relations of unlikeness which neutralise each other. It is a change from some relatively-enduring state A to another state x (which represents the feeling we have while passing from one of the like things to the other), and a change from this transitory state x to a second relatively-enduring state A: which second state A would be indistinguishable from the first state were it not divided from it by the state x, and which merges into such first state when the state x disappears, from the approximation of the two like stimuli in space or time."

But another point must be noted, *viz.*, that Mr. Spencer de-

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clares the primordial relation of unlikeness to consist of two states only; and it might be urged that in this case it is difficult to see what constitutes the relation of unlikeness, unless it is the simultaneous excitation of the two states. The transitory state described in the preceding passage is expressly asserted to be absent. But if a relation of unlikeness is established in such instances as Mr. Spencer enumerates, and if that relation is a *change* in consciousness, it can be nothing, for analysis in reflection, but a transient state between the two states spoken of, which transient state must either have a generic quality and quantity like the relational feeling Mr. Spencer elsewhere (*Prin. of Psych.*, i. 224) describes, or must consist in a brief union of the supposed original states. The former alternative represents Mr. Spencer's view, but I think his lettering might with advantage be altered—if for the first primary feeling we take A^1, for the second B, and let x represent the change, the relational feeling of unlikeness between them; then in illustrating the relation of likeness, take A^2 for the third feeling similar to the first, and x for the relation of unlikeness between B and A^2. This lettering is suggested by a passage in the 1st edition of the *Psychology*, p. 316, which corresponds with the passage already quoted, and runs thus:—

"Accurately speaking, therefore, a relation of likeness consists of two relations of unlikeness which neutralise each other. It is a change from some state A to another state B (which represents the feeling we have while passing from one of the like things to the other), and a change from the state B to a second state A: which second state A would be indistinguishable from the first state were it not divided from it by the state B, and which merges into such first state when the state B disappears, from the approximation of the two like stimuli in space or time."

The changes thus referred to are transient states—are, in truth, *the relations;* and I venture, therefore, to think it advisable to symbolise them by small letters, retaining the large letters for the primary feelings. Otherwise the reader may be misled into supposing "the transitory state," in the extract first quoted, which appears under a small-letter symbol x, to be a relational feeling instead of being, as it is there, a primary feeling. To return, then, to my lettering, let us ask whether the relation of likeness is a relation between x and $\bar{x}$, or a relation between A^2 and a^1 (where a^1 symbolises the residue of A^1). Barratt's answer seems to be that it is *both*. In considering his position it will be well to adopt his terminology.

According to Barratt, I have a simple sensation A. Then comes a change to sensation B, during which change A and B exist simultaneously. The compound state of consciousness thus excited he calls a *sensation of difference*. Then comes another change, which ends the sensation B (for the first change introduced sensation B, and the second change is said to neutralise the first), and again introduces the sensation A (for the coalescence is between "two portions of the same sensation"). But

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there still remains a residue from the first portion of sensation A, and with this residue the second portion of sensation A coalesces. The mixed state formed by the coalescence of the second portion of sensation A with the residue of the first portion of sensation A is Barratt's *idea of resemblance*. He apparently calls this mixed state also a *sensation of resemblance*, but prefers calling it a *perception of resemblance*. He further describes this perception of resemblance as formed by the combination of *two sensations of difference*. What are these two sensations? The first of them is the simultaneous excitation of A and B, in which *consists* the change from sensation A to sensation B. The second of them would seem to be the simultaneous excitation of B and A, in which consists the change from sensation B to sensation A. This second change is said to neutralise the first change.

There are now present the second sensation A, the residue of first sensation A, and also the residue of B; since if the first sensation A can leave a residue, much more can the sequent B. Call the residues *a* and *b*. Now the perception of resemblance is formed by the coalescence of A and *a*, and coalescence means simultaneous excitement (*Physical Ethics*, p. 334, *note*). But it is also formed by the combination of A + B and B + A, if we take these expressions to represent the two sensations of difference, as Barratt would apparently take them. The series of sensations ought to be from Barratt's standpoint—

A
A + B
B + *a*
B + A + *a*
A + *b* + *a*.

But here we find *four* sensations of difference, if the changes in consciousness are strictly regarded and no favouritism shown to the residues Barratt requires. If we are partial and admit his erroneous plea, we get a series as follows :—

A
A + B
B
B + A
A + *a*

where the order is, in Barratt's terminology,

Simple sensation (A).
Mixed sensation of difference.
Simple sensation (B).
Mixed sensation of difference.
Mixed sensation of resemblance.

It seems to me hardly legitimate to speak of this final mixed sensation as formed by the combination of the preceding sensations of difference, and still less legitimate to speak of it *both* as

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formed by that combination *and* as formed by the coalescence (or simultaneous excitement) of a present sensation and the residue of a preceding one. It is one thing to say that there cannot be a sensation (perception) of resemblance without there having been two sensations of difference. It is another thing to say that the sensation of resemblance is formed by the combination of those two sensations of difference; which two sensations may obviously be *conditions*, without being the *constitution*, of the sensation of resemblance.

Again, how can there be a simultaneous excitement of a present sensation and the residue of a preceding one when this residue consists in a weaker action of the same nerve-centres as are stimulated in the case of the sensation itself? This is a doctrine which Barratt accepts: "Idea is thus exactly the same physical and conscious state as its corresponding sensation, but of a less intensity" (p. 334, *note*). The only meaning, then, we can give to his "simultaneous excitement" here must be that the present sensation is more vivid than it otherwise would have been, and the perception of resemblance is reduced to a sensation of greater vividness. I think Barratt would be unwilling to adopt this position, and, moreover, he adds that the perception of resemblance "arises only from that particular form of change which we call reversal, of which one term is equal and opposite to the other". Barratt's expressions, in short, concerning the origin of the relation in question cannot be made to agree; but it appears that the dominant view in his mind was analogous to Mr. Spencer's, and that his *perception of resemblance* involved the reversal or neutralisation of one sensation of difference by another, just as Mr. Spencer's relation of likeness involves the neutralisation of one relation of unlikeness by another—of, in the lettering above, x by $\bar{x}$. But how does this doctrine comport with the view that all knowledge is classification of like to like—is assimilation of feelings to feelings and relations to relations?

When Mr. Spencer writes that "a relation of likeness consists of two relations of unlikeness which neutralise each another," we must not suppose the relation of likeness to be constituted by the mere feeling of neutralisation any more than we must suppose it to be constituted by the mere presence of the two relations of unlikeness. The description of these is the description, from an analytic reflective point of view, of the mental processes by which the relation of likeness is disclosed (*Prin. of Psych.*, ii. 283). When we assert that any two primary feelings are alike in kind, "we express an intuition of which we can say nothing further than that we have it. Though, as will by and by be seen, the intuition may be otherwise expressed, it cannot be decomposed" (*Ib.*, p. 280). "That two changes in consciousness are of like kind is a fact of which we can give no account further than that we perceive it to be so. When two transitions in consciousness produce in us two like feelings, we know nothing more than that we have the like

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feelings. It is true, as will be shown in a subsequent chapter, that it is possible to say specifically what we mean by asserting the likeness of these feelings. But beyond this it is impossible to go" (*ib.*). When, therefore, Mr. Spencer speaks of the primordial relation of unlikeness as consisting of two states only, he means that when two states such as he describes are given a relation of unlikeness is established; that when two relations of unlikeness such as he describes are given, a relation of likeness is established. The principle here involved is too frequently forgotten in dealing with mental evolution. Another precisely parallel instance may be given. The relation of coexistence is a relation said to be disclosed by experience; it is a relation between two particular relations of sequence; it is neither the one relation of sequence nor the other nor the mere both; but when these two particular relations of sequence are established, the relation of coexistence is established. To ask *why*, is to ask why relation should be the form of thought; further interpretation cannot be given: we have come to the unknowable (see Brown, *Phil. of Human Mind*, Lect. xxxiii., p. 211, and x., p. 61). I can analyse my experience, and I may determine the *order* of the relations established in my consciousness; I may show that certain relations have arisen for me only after the establishment of certain other relations. To trace the series of relations throughout, from the most complex (*i.e.*, as requiring the previous establishment of other relations) to the most simple, is to exhibit in one of its aspects the process of evolution. But in no case are the earlier stages to be considered as *producing* the later ones, any more than the walls of a house are to be considered as producing the roof.

We have now to notice that Barratt's view concerning the nature of feelings of relation resembles the doctrine of "transformed sensations" offered by Condillac in the last century. Barratt holds that "there is nothing in the relation beyond its two members, the change is merely a short simultaneous consciousness of the two sensations" (*Physical Ethics*, p. 47). Condillac, in *Traité des Sensations*, writes, pp. 16-17—referring to two sensations, one which we have had, and the other which we have—"Nous les apercevons à la fois toutes deux. . . . Apercevoir ou sentir ces deux sensations, c'est la même chose. . . . La mémoire n'est donc que la sensation transformée"; p. 50—"Le jugement, la réflextion, les désirs, les passions, etc., ne sont que la sensation même qui se transforme différemment"; p. 121—"La sensation renferme toutes les facultés de l'âme". Condillac's doctrine has been ably criticised by that keen but sadly neglected thinker, Dr. Brown, in his *Philosophy of the Human Mind*, Lect. xxxiii. He urges that Condillac's great error "consists in supposing that, when he has shown the circumstance from which any effect *results*, he has shown this result to be essentially the *same* with the circumstance which produced

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it," and displays great analytical acumen in exposing the fallacy underlying Condillac's position. Brown's argument is fatal to Barratt's view, as much as to that system, which he otherwise describes as supposing "our comparison to be the ideas compared, and nothing more, as if these had flowed together into one".

"Because two affections of mind are followed by a third, he considers this third to be the two former co-existing, or as he terms it, transformed." "They do not involve or constitute, they merely give occasion to this third state, and give occasion to it, merely in consequence of the peculiar susceptibilities of the mind itself as formed, by its divine author, to be affected in this particular manner, after being affected in those different manners which constitute the separate perceptions, as sensation itself, the primary feeling, was made to depend on some previous organic affection produced by an external object. It is not, therefore, as being susceptible of mere sensation, but as being susceptible of more than mere sensation, that the mind is able to compare its sensations with each other."

Finally, I observe that more than one mistake is made by Prof. James in the article I have mentioned. He appears to think that Mr. Spencer was the first to use the phrase "feeling of relation": he appears to think also that Mr. Spencer has not "seen very deeply into the doctrine". But this doctrine was put forward at least as early as Brown, who uses the very phrase to which Prof. James refers. It is true that Brown's doctrine is much less evolved than Mr. Spencer's, but it is substantially the same in foundation. Reference may be made for various expressions of it to Lectures x., xxxiii., xli., xlv., xlix., l., li. He speaks continually of the "feelings of relation. The praise, then, which Prof. James bestows upon Mr. Spencer is undeserved. The blame which he bestows upon Mr. Spencer is equally undeserved.

"Mr. Spencer," he says, "tries to reduce the number of relations among things to a minimum; and in other passages says they are limited to likeness and unlikeness, co-existence in space and sequence in time. Whether this be true of *real* relations, does not here concern us. But it is certainly false to say that our feelings of relation are of only these four kinds."

Now, I am surprised to learn that Mr. Spencer has reduced the number of "*real* relations" to no less than four, and I am also surprised to learn that he asserts "our feelings of relation" to be "of only these four kinds"—as I understand Prof. James to mean the expression. Prof. James cannot have attended to the rest of the chapter in the *Pyschology* where § 65, to which he makes reference, occurs, or even to the note appended to that section itself, which runs thus:—

"It will perhaps be objected that some relations, as those between things which are distant in space or in time, occupy distinguishable portions of consciousness. These, however, are not the simple relations between adjacent feelings which we are here dealing with. They are relations that bridge over great numbers of intervening feelings and relations; and come into existence only by quick transitions through these intervening states, ending in the consolidation of them."

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It is rather Prof. James who has not "seen very deeply into the doctrine". The last paragraph of § 73 should justify my statement. See also Part iv. ('Special Analysis') throughout, on the varieties of our numerous feelings of relation. Need I do more than ask what is suggested, say, by Mr. Spencer's description of the perception of softness as "the establishment in consciousness of a relation of simultaneity between three series of sensations—a series of increasing sensations of pressure; a series of increasing sensations of tension; and a series of sensations of motion"? Do we find here suggested that Mr. Spencer regards "our feelings of relation" as of only four kinds? Or is it suggested by the statement that "the term Perception is applied to mental states infinitely varied, and even widely different in their natures";—or that "a perception may vary indefinitely in complexity, in degree of directness and in degree of continuity";—or that "in all their various kinds and compounds, what we call relations can be to us nothing more than the modes in which we are affected by bringing together sensations or remembered sensations or both: hence what we have next to do is, first to resolve the special kinds of relations into more general kinds, ending with the primordial kinds; and then to ascertain what are the ultimate phenomena of consciousness which these primordial kinds express"?

Analysis brings us evidently down to the single primordial relation which is a *change* in consciousness, one aspect of which is the relation of unlikeness and the other aspect a relation of sequence.

MR. F. H. BRADLEY ON FACT AND INFERENCE.

By B. Bosanquet.

I thought that if there was one doctrine that European philosophy had fairly made its own, it was that of the inferential character of fact. According to Mr. Bradley (*Principles of Logic* p. 74), "Events past and future, and all things not perceived, exist *for us* only as ideal constructions connected, by an inference through identity of quality, with the real that appears in present perception". Here we have a clear, though in one point it seems to me an inadequate, statement of the doctrine which I understand to be the basis of modern European thought, and to be in a peculiar sense the inheritance of the English experiential school. Whatever other opinions an English writer may hold, he has seldom from the time of Locke failed to lay stress on the relativity of knowledge, and on the inaccessibility of fact to immediate cognition. Mill in his "Psychological Theories of the External World and of Mind" has pushed this view into extremes. I was therefore unprepared to find, in so advanced a writer as Mr. Bradley, the artificial or manufactured character of fact con-

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stantly treated as in need of establishment by controversy, and sometimes ignored.

The point of inadequacy to which I referred lies in the exception indicated by the phrase "all things not perceived". I should have preferred, "all things whether perceived or not". The attitude which Mr. Bradley betrays here, and adopts elsewhere, towards this which I understand to be his own doctrine, is the curious subject to which I wish in the first place to draw attention. I can only explain such an attitude on one hypothesis: *viz.*, that, while formally adopted for the sake of irony and in order to reduce his opponents, whose genuine attitude it is, to an absurdity, it is really the expression of an influence which has qualified Mr. Bradley's conceptions more seriously than he appears to apprehend. To go thoroughly into the question would require an elaborate review of Mr. Bradley's *Principles of Logic*. I shall only try to state my meaning shortly, and illustrate it by touching on a few salient points.

I understand the limitation "things not perceived," in the passage quoted above, to imply strongly that the "real that appears in present perception" has not the character of an ideal construction. The passage of course might be interpreted otherwise, but I believe the intention to be what I have indicated. For, as one of many instances, I may compare p. 365 where "a fact merely got by simple perception" appears to be equivalent to "a fact of sense" and opposed to a "judgment". It is in accordance with the point of view so revealed, that Mr. Bradley's entire account of the Judgment and of Inference in their relation to Fact is given from a standpoint only befitting "the unfortunate holder to sensuous reality" (p. 492). Thus, as we arrive at any definite knowledge, we are torn away from reality; and I at least am unable to decide whether the bitter words ("mutilation," "garbled extract," "not the facts") which are hurled at scientific truth, are ascribed with savage irony to the supposed believer in sense-presentation as the only fact, or come at times sincerely from the author's heart. My difficulty may arise solely from my own dulness; but it is not impossible that others may share it.

I need not collect the indications of a quasi-sceptical mood which are scattered throughout the treatise. They are hardly matter of argument. It is enough to refer emphatically to pp. 532-3, which certainly might be taken to show that the author has modelled his ultimate idea of the relation between knowledge and reality on that of the above-mentioned "unfortunate". How else could he contrast the "sensuous curtain" with the "unearthly ballet of bloodless categories" and the "movement of our intellect's content" with the "senses' abundance," as if we should ever propose to isolate one of these elements, and worship it as reality? Is the substantial and coherent structure of the world, as seen by the soul that looks through the eye, to pass

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for no more than a "sensuous curtain"? After the masterly account of Causation about fifty pages before, one is startled at words which appear to suggest the conceivability that a category, say causation, might divest itself of reality, and go about like a ghost on its own account. I may add that this account of causation as "implying a connexion which cannot be presented" does not bear out the censure of p. 195 on the conception of cause as the sum of the conditions. Condition is condition, as cause is cause, for us by ideal connexion; condition is distinguishable from cause exactly as much as cause is distinguishable from effect, and for the same reasons. If we forbid ideal isolation, abstraction from relations which are presupposed, we are back again where the Eristics were in Plato's time, and will say nothing because we cannot say all. If it is not a fact that arsenic is poison, I really do not know what a fact is, and am tempted to say that I do not care. But if it is a fact, then a condition is a fact. Of course the reality which we treat as a condition is seen in a certain ideal light; is, if we like to say so, known as the antecedent of a hypothetical judgment. But so, as Mr. Bradley trenchantly demonstrates on p. 486, must the reality be seen which is to count as a cause. And so, I should add, must every reality be, of which in any context whatever anything is to be said or known. These considerations would to my mind have an important bearing on Mr. Bradley's treatment of the Method of Difference. He seems to demand that to prove causation we should succeed in actually isolating the suspected cause; but actual isolation is impossible; there is no such thing. To attempt it is simply to bring about a new and unknown combination. All isolation is *ideal*, *i.e.*, for knowledge; a mere distinction between relevant and irrelevant; and it is the making of this distinction that the Method of Difference expresses.

I will now point out some awkwardnesses which seem to result from the assumption of a standpoint which is too paradoxical to be carried through; and which yet affects the author's general views with a sort of yearning after a solid *πού στῶ*. I mean the assumption that fact cannot be given in universal or perfectly definite propositions: "The moment you have reduced your particular fact to a perfectly definite set of elements, existing in relations which are accurately known, then you have left the fact behind you" (p. 335). Starting from such a conception as this, it is obvious that as we get towards the world of science we get away from the facts; and it is not surprising that as we approach truth we recede from reality.

In presence of such a conception it was surely vain to haggle about the categorical judgment. If nothing which thought has defined can be a fact, we may say at once that no judgment can be categorical.

The "analytic judgment of sense" can at best be distin-

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guished from the "synthetic judgment of sense" only in the most fugitive way; and for the present purpose the distinction could never hope to stand. The discussion whether it may be taken as categorical seems to me wholly inconsistent with Mr. Bradley's assumed point of view.

I find a strong special case of this difficulty in the temporary concession that there may be a collective judgment, a form of the singular judgment, which may be taken to be categorical in virtue of referring to "a real collection of actual cases," apparently an equivalent phrase to "the existing cases" (pp. 82-3). But existing cases which are not perceived are surely as a matter of knowledge in exactly the same position with past or future cases: they are known in the same way, and are subjects of the same kind of predication. The cases existing in present time afford no tenable limit in such a discussion as this. They are less than we can construct by inference, and more than we can perceive directly. If we go to construction at all, we cannot omit past and future; and I do not believe the natural meaning of a judgment ever does so, except when time enters into the content.

Mr. Bradley has indeed disclaimed the fiction of the "atomic now" (pp. 50-3), and has propounded an interesting view of the connexion between reality and "presence"; partly, I think, founded on a doctrine of Lotze's.[1] I accept this view, but remark on it (*a*) that it allows and requires you to charge your perception of presented reality to an indefinite extent with matter belonging to past and future (your present is, in fact, the "logical" present, as illustrated by the old explanation of Virgil's "Cratera antiquum, quem *dat* Sidonia Dido"—"the gift of Dido"); and (*b*) even when you have so charged it, you have not any reality till you have all, and that you never have. Between the "atomic now" and the whole of knowledge I see no resting place; the logical present is capable of taking in all.[2]

Still more serious than the admission of a collective judgment is the false impression conveyed by arguing that the hypothetical judgment cannot be reduced to a categorical one. Naturally, if there is no categorical judgment to reduce it to! Why not tell us at once that the essential purpose of such a reduction, so far from being denied, is the main contention of the treatise; that the categorical and hypothetical *forms* signify no essential difference, and that in those characters which are of value for knowledge (omitting all reference to the ill-used terms 'fact' and 'reality') the ordinary universal categorical, and the hypothetical judgment, are one and the same? Instead of reducing the hypothetical to the categorical, Mr. Bradley reduces the cate-

[1] *Metaphysik*, § 150.

[2] Mr. Bradley may in fact be held to be pointing this out in his interpretation of the Law of Identity, p. 133.

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gorical to the hypothetical. I can see, apart from his assumed standpoint, no importance whatever in the change.

But I venture to suspect that in his mind this reversal has an import, and a fictitious one. Mr. Bradley is especially keen in pointing out that the hypothetical and disjunctive judgments cannot possibly predicate fact. Now, if we are to stand by the author's starting-point, I should not much care whether they do or not; for in the sense thus assumed, I should not say that 'There is an omnibus' expressed a fact. But in the case of the explicit hypothetical and explicit disjunctive I gather that there is a further and special ground. "What is affirmed (in hypothetical judgment) is not the actual existing behaviour of the real, but a latent quality of its disposition" (p. 87). And so with the disjunctive "'A is B or C'; but this mode of speech cannot possibly answer to real fact. No real fact can be 'either—or'. It is both or one, and between the two there is nothing actual" (p. 122). Here we are criticising the judgment from a more advanced basis. We are not merely saying that it defines by omission and selection within the sensuous environment, and therefore being partial does not represent fact. We are saying, I suppose, that when it alleges a connexion between elements one or all of which may not now exist, or an alternative between elements which cannot both exist at the same time in the relation suggested, then a judgment cannot represent fact. What conception of fact have we got here? Is it = what exists in the vanishing "now"?[1] This is more than sensuous perception, but less, I should imagine, than the "ultimate non-phenomenal fact" (p. 180); less also, surely, than the reality which = presentation by contact, of p. 503; a fact which is real in this latter sense most certainly can be 'either—or,' for it may change within the presentation, and the *is* includes the whole presentation.

The conception of fact according to which the hypothetical and disjunctive judgments are incapable of stating fact, is the same according to which it was alleged that the collective judgments as dealing with 'existing cases,' did state fact. I will try to illustrate my objection to it in this way. Mr. Bradley ingeniously elicits the categorical elements which underlie, as he thinks, the hypothetical and the disjunctive judgments respectively. These elements are qualities which form the basis of the supposals

[1] Sigwart, *Logik*, p. 253, speaking of such judgments as "Der Mensch kann wachen und schlafen," says that if "auf einen und denselben beliebigen Zeitpunkt bezogen," they become disjunctive, "Der Mensch schläft oder wacht". But this equivalence is enough to show that the *judgment* remains universal in point of time; it is only the *exclusion* which infers to a single moment in time. It is not that you fix a point of time and infer the judgment to that (or if you do so, rhetorically, you say so; *e.g.*, 'Now, as always, your character is either improving or deteriorating'); you judge universally that at any and every point of time a certain feature *viz.*, the exclusion, holds good.

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expressed in these two types of judgment. Why are they more "categorical" than the consequents of the "supposals"? I can only imagine it to be because they are conceived as permanent, and therefore as capable of being predicated as in present time, which the consequents of the supposals are not. And then there is no obstacle to taking the present existence of the subject (present in time) as implied in the judgment. But this was an indication of being categorical in the case of the collective judgment, and is so too in the case of the disjunctive (p. 122). I suppose that the subject[1] of the quality implied is to be taken as existing in present time in the case of the hypothetical also.

I have said that I do not see how the assertion of the present existence of the subject makes a judgment categorical. I also do not think that any judgments imply the existence of their subjects except those which say something that depends on time-relations. Unless, therefore, we are to identify categorical judgments with those common statements of passing events to which time makes a difference, I do not think that implying the existence of the subject in present time is here or there in the question of categorical character.

And surely, if the predication of a supposal as to future time is to make a judgment other than categorical, no judgment which asserts a quality will stand. We never confine a quality to the present in asserting it; we hardly ever inquire if its condition, *e.g.*, the light which is essential to colour, exists at the moment we predicate. Before I say, 'My wall paper is green,' I do not stop to think whether my room is just now dark. My present assertion is in fact based on the hypothetical judgment that if it is light, green colour is visible on the wall. The latter is the datum, the former the inference. As to the disjunctive judgment, I can see why a thing should not be both at once of two reciprocally exclusive predicates, but why it should not be 'either—or,' especially if we take the present as having duration (for the *exclusion* must still be tested by simultaneity, so we shall not get 'both') I cannot understand. It appears to me that most precisely defined attributes are abbreviated disjunctions; they have disjunctions for their content. To reduce disjunctions, or hypothetical judgments, to something present and continuous, may have a metaphysical justification in some law of continuity; but the facts which they represent do not bear this on their face, and I gather that Mr. Bradley does not hold continuity to be essential to identity. 'Gold is yellow' means 'If

[1] Pp. 87-8. But this subject need not be the subject which appears in the judgment at all. The ground of the hypothetical is asserted of reality. But this seems to leave the whole specific assertion to be made by the hypothetical judgment. In other words, is not the phrase "Reality is such that—&c." implied in the act of judging at all?

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gold is exposed to white light before a seeing eye it will look yellow'. Mr. Bradley may say, we conclude to some permanent surface quality, and this is real yellow. And this, no doubt, may be a justifiable inference; but if continuity is not essential to identity (p. 269), I do not know that it is a necessary one. And it is not the same thing as what we naturally mean and intend, namely, to predicate of gold, in terms to which time is indifferent, that whenever it is seen in the light it looks yellow. We employ the logical present, and I do not see that the possible discontinuity of the manifestation of colour at all impairs our right to do so, if the extension of our judgment beyond the vanishing moment of the present does not, as we are agreed that it does not. The only thing that would impair our right to a categorical present in such a case, would be the fact that time made a difference to the content; and in this case I presume that it does not. I will take a stronger instance: 'That tree is 30 feet high'. The meaning of this judgment is chiefly made up of hypotheticals and disjunctives. It is improbable that the tree has been measured with a yard-measure, and if it had, the judgment of its height would be borrowed from the past. But more probably we mean that if it were measured with a yard-measure it would be found 30 feet high; or more strictly, we mean what we say—in that case, a somewhat bold *inference*—that the tree has a height of 30 feet, discarding the idea of whatever means we may have taken to arrive at a knowledge of the height. But further: the judgment of size, like all such judgments, undoubtedly represents a disjunction; so far from being surprised when the same object covers a small place in the field of vision at a distance, and a larger one when near, we should think our perception contradictory if it were not so. The judgment of size includes a disjunction of the appearances which the object of the alleged size will present at different distances. If this were not so, our judgment of size would alter, or if too well established to alter, would seem contradicted by perception, as we altered our distance from the object. We include, in stating the size of an object, the fact that it may subtend very various visual angles, can subtend only one at a time, and must subtend that which its distance and its size taken together require. And if a disjunction is not categorical, I do not see how such a predication as this can be categorical.

You may indeed have a hypothetical judgment which has for its main object to illustrate a quality. I take an extreme case from Allman's *Polyzoa*, p. 14: "If these setæ (the setæ of Bowerbankia) were reduced in number to four, &c., &c., they would at once be converted into the ribs of Paludicella". I do not think there is any intention here of designating an actual course of evolution; the sentence merely indicates a construction which the reader is to make for himself, in order to accentuate certain points of analogy in the structure of the Polyzoa in ques-

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tion. In this case it happens that a quality, or rather group of relations condensed into attributes, is conceived of as permanent, and then a certain mode of looking at it is prescribed in order to bring out its features most sharply. This is an accidental and to a certain extent abusive employment of the hypothetical judgment, which we often indicate by saying, 'Try and imagine,' —'If of course it is impossible—,' and the like. It is far more natural that the hypothesis should explicitly allege the pure case we have in our knowledge, and that any reference of this to a permanent quality should be an extraneous and metaphysical conclusion. I may add that the non-existence of Bowerbankia at the present moment would, as Mr Bradley claims, make no difference to the truth of the hypothetical judgment, nor, as I should say, to any judgment, even if categorical or disjunctive in form, into the content of which time does not enter; but its non-existence in the field of knowledge, or its incompatibility with the elements which the judgment connects with it, would turn the judgment into nonsense or make it false. Mr Bradley admits (p. 219)[1] that abstraction and impossibility are not the same thing; therefore we can take hypotheticals as expressing fact, without accepting the consequents of impossibilities.[2] And I subjoin, all thought is hypothetical *quâ* abstract, even sensuous perception. Thus I see no sort of use in trying to get at fact as something non-hypothetical, or in trying to find a class of judgments which imply the existence of their subjects in the moment of predication, with the exception of those in the content of which time plays an essential part: and the required class, if found, would still *not be* categorical, if a universal judgment is not categorical.

These considerations lead me to doubt whether Mr Bradley's censure on Mill's account of "conditional propositions" is justified. The substance of the censure is "*either* categorical, *or* conditioned by a supposition". I deny the exclusiveness of the disjunction, and cannot understand how, in the face of his own analysis of the ordinary categorical judgment, Mr Bradley can maintain it. In the most *outré* sense he even admits no categorical judgment to exist at all. I put out of sight the judgments with non-phenomenal subjects, as Mr. Bradley does not insist on these. I should have thought all judgment passed by degrees into this class.

Surely the English realist of Mill's type has the better here. He takes the explicit statement of a connexion of content for a definite assertion, and not less but more definite because the condition, which all assertion involves, is here made visible and explicit. It is surely beside the mark to ask whether Mill's "inferribility" means the fact of having been inferred, or the possibility of being inferred. In saying that the one judgment

[1] Contrast p. 190. [2] Contrast p. 186.

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is inferrible from the other, he implies, as a formal condition, the forum before which fact is fact; *i.e.*, a rational mind *quâ* rational. True, this is formally a condition, just as it is a formal condition of 'Buttercups are yellow' that there should be light to see them by, and living eyes to look at them, and of every statement that the world should exist and continue, or, one is almost driven to say, that the statement should be true; I mean, that the world should go on as it does, at least so far as not to interfere with the statement. But these formal conditions surely cannot invalidate the claim of the statements concerned to rank as facts.

I turn to another side of the same question. I, as I expect to find all fact to bear the marks of inference, should be surprised if inference were not an inseparable element in all judgment. Mr Bradley's treatment of judgment in relation to inference is most instructive, but leaves, as I read him, one important point open, which I connect again with his assumed conception of fact as the datum of sense. "All judgment," he says, on p. 406, "is not inference, if *mere* judgment claims a position as inference". And in the same place he speaks of "the arbitrary synthesis of a suggestion with reality". I gather from p. 405 that mere judgment, or an arbitrary synthesis, may be owing to such a source as the testimony received from others, or as the prominent suggestions of our own senses. Now, I do not understand what is meant by a "mere" judgment, or "arbitrary" synthesis. "Judgment is our act" (p. 439), and "if compelled" (*ib.*), is yet compelled by a ground. The simplest case is that which Mr Bradley instances—our acceptance of the testimony of others. Surely this, as we re-think it, is never a simple reproduction of the content of the testimony: at the very least it is classified on the ground of something in its content and of our knowledge bearing on the matter, as "not incredible"; or in some such way the ground of acceptance is embodied in the content of the judgment.

Thus, "mere" judgment, arbitrary synthesis of suggestion with reality, are terms which to my mind convey no meaning. And the particular point, in reference to Mr Bradley's own view, which his account of the relation between judgment and inference appears to me to leave open, is this:—may I while fully admitting "that explicit judgment comes before explicit inference" (p. 441), nevertheless identify the act of judgment with inference of that class which has "an implicit centre, unavowed but active?" This is what I should like to do. But I am not sure whether inference of this class—comparison, distinction, recognition and the like—having an unavowed centre, are to come under the head of explicit inference (p. 441) or not. I should be fairly content to take these "inferences" as judgments in as far as the centre is not expressly avowed, but as partaking

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of the character of inference in as far as it is operative or partially distinguished in thought; not holding the two characters of judgment and inference to exclude each other, but both to be concurrent from the beginning. The judgments of perception, for instance, would thus be distributed under the heads of recognition, comparison, distinction, abstraction. I say 'concurrent from the beginning'; for I do not think that a centre which is active is ever wholly and absolutely unavowed, though we should often be puzzled to give it a name before the inference had assumed a perfectly explicit form, and so passed, as I admit, beyond the type of ordinary judgment.

The mention of a mere judgment, however, makes me doubt whether by this interpretation I should meet Mr Bradley's views. I fear that he has in his mind a lower deep of judgments made as true, but absolutely without consciousness of dependence on a ground; without any feeling whatever even of an implicit centre of formation. I do not seem to find such judgments in my own mind. I do not believe that the "suggestions of sense" to a human mind are pure suggestions of sense. The orderly world which we see is already organised by the judging faculty. I am sure, too, that I cannot re-think what I am told by simple repetition and acceptance.

But I have said enough to indicate my point of view, and can do no good by insisting further on commonplaces which Mr. Bradley must of course have neglected wilfully and for reasons which seem to him sufficient. I will merely add as a corollary —that *of course* I find the same pernicious influence of "common sense" and popular realism in Mr. Bradley's acceptance of Sigwart's teaching that "all mediate certainty must stand in the end on immediate knowledge; the ultimate premises of proof cannot be proved". I did think that all this was behind us; that we now understood knowledge to be a system of such a character that A and B prove each other when put together, though neither is certain when isolated; neither, therefore, as knowledge, is immediate or ultimate.

In conclusion, I would remark that Mr. Bradley's main contention as to the place of subsumption in inference and the true nature of the inferential function appears to me to be made out. This achievement alone (and it by no means stands alone) would suffice to give his work a prominent place among the best logical treatises.

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V.—CRITICAL NOTICES.

Progressive Morality. An Essay in Ethics. By THOMAS FOWLER, M.A., LL.D., F.S.A., President of Corpus Christi College, Wykeham Professor of Logic in the University of Oxford. London: Macmillan, 1884. Pp. 201.

This book is "an attempt to exhibit a scientific conception of morality in a popular form, and with a view to practical applications rather than the discussion of theoretical difficulties". It is therefore not primarily intended for the students of ethics who may be supposed to be readers of this Review: at least, in the present notice, I am rather called upon to examine the adequacy and coherence of Prof. Fowler's scientific conception than the degree of success attained by him in popular exposition. Still, before I proceed to the criticisms that I have to offer from the former point of view, it is only fair to say that the book appears to me, in style and manner of treatment, excellently adapted for the purposes for which it is primarily intended. When I disagree with the author, it is almost inevitable, from the nature of the subject, that I should sometimes attribute to him confusion or obscurity of thought or expression; but whenever I find myself in agreement with his views, he seems to me to have very successfully packed much instructive matter into lucid and unburdensome paragraphs.

Thus nothing can be better, for its purpose, than the greater part of ch. i., in which the moral motive or sanction, regarded as the "internal feeling of approbation or disapprobation with which, on reflection, we look back upon our own acts," is distinguished not only—as by Bentham—from the physical and legal sanctions, but also from the social sanction (which Bentham and others have called "moral") and from the "lower" and "higher" religious sanction. I do not myself think that what is here characterised as the "higher" religious motive, which operates when "we simply do good and act righteously, because God, who is the supreme object of our love and the supreme ideal of conduct, is good and righteous"—comes strictly under the head of "sanctions" as defined by Prof. Fowler: that is, I do not think it is clearly a case of pleasure attracting or pain deterring: but probably this psychological question is one of the controversial points which the author has wished to avoid.

In ch. ii., after effectively pointing out how the moral sanction "varies as applied not only by different individuals but by the same individual at different times," Prof. Fowler raises the fundamental question, How then, in spite of the variation, can we "justify the application of this sanction" as the "supreme and final sanction in case of conflict"? His answer consists of two

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parts. He first urges that "in the main we approve of ourselves for having done what we thought right at the time, even though we may have come to think it wrong". This is, I conceive, true as regards the moral judgments of reflective persons: but if we are considering the moral *sanction*, *i.e.*, the pleasure and pain attending judgments of approbation and disapprobation respectively—I think it must be admitted that the emotional satisfaction with which we contemplate a past act, performed under a sense of duty which we have come to regard as mistaken, is at best a very feeble pleasure. At any rate, the proposition that this feeling should always prevail in conflict with others demands some further justification, besides a mere demonstration that it approves its own predominance. This further justification Prof. Fowler finds in the fact that "human nature, in its normal condition, is so constituted that the remorse felt, when we look back upon a wrong action, far outweighs any pleasure we may have derived from it, just as the satisfaction with which we look back upon a right action far more than compensates for any pain with which it may have been attended". I infer, however, from a later passage (ch. iv., p. 139) that by a "normally constituted" mind Prof. Fowler means a mind where the feelings of self-approbation and self-disapprobation are "very strong"—since it is only in the case of such a mind that he is prepared to affirm "that a man *always* gains more happiness in the long run by following the path of duty". This view, at any rate, importantly limits the application of Prof. Fowler's justification of the moral sanction; and this limitation, I think, should be more carefully explained in ch. ii. But, further, if the claim of moral sentiments to prevail is justified on the ground that they are "more intense and durable than other pleasures and pains," some qualification seems to be needed in the account subsequently given (ch. iii.) of "sacrifice" as an essential characteristic of acts morally approved. I do not see how, according to Prof. Fowler, it is possible for a "normally constituted mind" really to sacrifice its "own good to the greater good of others": I do not even see how moral action can even *appear* to such a mind under the form of "sacrifice," provided that it has duly apprehended the greater intensity and durability of moral pleasures and pains.

I have, however, a more fundamental difficulty with regard to the analysis of the moral sentiment given in ch. iii. Prof. Fowler aims at "discriminating carefully between the intellectual and emotional elements in an act of approbation or disapprobation": and following Hume's "peculiarly lucid treatment" of this distinction, he explains that "whether we are reviewing the actions of ourselves or of others, what we seem to do, in the first instance, is to refer them to some class or associate them with certain actions of a similar kind which are familiar to us, and then, when their character has thus been determined, they excite the appropriate feeling of approbation or disapproba-

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tion, praise or censure". Here, however, there is a fundamental question to ask, with regard to which Hume's answer seems to me different from Prof. Fowler's. In this intellectual reference of an action to a class which precedes the feeling of approbation or disapprobation, is the class conceived as having *ethical* characteristics—I mean, as being good or bad, right or wrong—or is it not? That Hume means to answer this question in the negative is quite clear; but if Prof. Fowler means to answer it in the same way, I think his language should be more carefully chosen. He speaks of this intellectual or logical process—when distinguished from the "*feeling* of moral approbation or disapprobation"—as a "moral judgment," a "decision upon conduct": and he gives as illustrations of it that "as soon as we have recognised an act as brave or generous, we regard with esteem or admiration the doer of it . . . no sooner is the act duly labelled as a lie, a theft, or a fraud, or an act of cruelty or ingratitude, or the like, than the appropriate ethical emotion is excited". No doubt it is; only, I conceive, in this "labelling" the acts are implicitly judged to be good or bad. When a plain man recognises an act as "brave" he implicitly recognises it as good or deserving of praise, at least in some respects if not absolutely; and in the same way "theft," "fraud," "cruelty," as commonly used, are dyslogistic terms—*e.g.*, in saying that a vivisector is cruel it is commonly meant not merely that he inflicts a great deal of pain in order to advance knowledge, but also that he ought not to inflict it. If then Prof. Fowler means to use the terms with their ordinary connotation, his view is different from Hume's; if not, such connotation should be more scrupulously excluded.

To a certain extent, I think, the book shows a hesitation or oscillation between these two incompatible views. Throughout the interesting discussion in ch. iii. (pp. 47-80), in which the distinctive characteristics of the object of moral approbation and disapprobation are determined, Prof. Fowler seems to be considering exclusively moral *sentiments;* as if he held with Hume that "the final sentence which stamps on characters and actions the mark of approbation or censure" depends on some "internal sense or feeling". And in accordance with this view he explains that "the feelings of moral approbation and disapprobation can never be properly described as erroneous . . . the error attaches to the preliminary process of reasoning, reference, or classification". In ch. iv., however, we are told that in the logical process of which the moral judgment is the result, "there are two possible sources of error. In the first place, the act of reference or association may be faulty . . . but even if the action be referred to its right head, there remains the second question whether we are really justified in regarding the class of actions itself as right and wrong." This second question clearly relates to a judgment or opinion, not a mere sentiment: there are, as Prof. Fowler goes on to say, "wide divergences of

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opinion on matters of conduct," so that it is of vast importance to "discriminate between those acts which are really and those which are only reputed, right and wrong". For this kind of discrimination Hume's view, as I understand it, leaves no room: in attempting it, Prof. Fowler seems to me to have left Hume behind, and to have accepted the fundamental assumption of an objective rightness and wrongness in actions, which is strictly incompatible with Hume's system. Where Hume only explains, Prof. Fowler is prepared to justify.

Where then is the justification to be obtained? Prof. Fowler agrees with Utilitarians in holding that it "must be derived from the observation of the effects and tendencies of actions": and the manner in which he traces the progress of morality as the result of the continued application of this test, at first in a merely semi-conscious and almost instinctive way, and afterwards, in the later stages of civilisation, by the consciously reflective action of philosophers and reformers, affords a good specimen of his terse, fluent and generally judicious exposition. It appears to me, indeed, over-dogmatic to affirm that "wherever any change of moral conduct takes place, unless it be dictated by blind passion, or mere submission to authority . . . . the change is *invariably* due to some change of opinion on what constitutes the advantage of the persons whom it affects"; since—to take Prof. Fowler's own instance—I should attribute such a change as that which has brought about the abolition of slavery rather to an increased general concern for the feelings of slaves than to a changed opinion as to what constituted their advantage. But I have a difficulty in criticising closely Prof. Fowler's view of moral progress, since I am unable to conceive with any precision the application of the test which he proposes. He holds, with Bentham, that "we may rightly regard the tendency to produce a balance of pleasure over pain as the test of the goodness of an action"; but he considers that in estimating pleasure and pain we must "frankly acknowledge that there are some pleasures and pains which are incommensurable with one another," and also "recognise the fact that our pleasures differ in quality as well as in volume". Now I cannot myself remember to have experienced any pleasure or pain strictly incommensurable with any other feeling definitely recognised as pleasurable or painful: *i.e.*, I cannot recall any one pleasure so immeasurably greater than some other that I should prefer the former, however limited in duration, to an indefinitely prolonged pleasurable consciousness of the latter kind: and similarly *mutatis mutandis* of pains. And if such incommensurabilities are really found in the conscious experience of others, it seems fundamentally important to know—what Prof. Fowler does not tells us—how many grades of incommensurability there are, and what pleasures and pains belong to each grade; since it is obvious that, in testing rules of conduct by a rational estimate of

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their effects, wherever any pleasure of an incommensurably higher grade comes in, the whole aggregate of pleasures of a lower grade, however prominent they may be in our forecast of consequences, will have to be discarded from practical consideration. Surely a calculation conducted on this plan would turn out very unlike that ordinary regard for consequences which Prof. Fowler represents as being historically the spring of moral progress.

But the calculation becomes still more perplexing if besides these incommensurables we are to take into account differences in "quality" as contrasted with differences in "volume". By what standard are we to compare superiority in quality with superiority in volume? and why is it to be assumed that men's common judgments as to the "high" or "low" quality of pleasures are less open to the charge of "prejudice, fancy and caprice" than their common judgments as to the goodness or badness of actions? I observe that Prof. Fowler prefers to call his ultimate standard of morality "welfare" or "well-being" rather than happiness, partly because it "corresponds almost exactly with the *εὐδαιμονία* of Aristotle". I am afraid that this is, in my view, a reason for objecting to it; since I find that Aristotle, in determining the particulars of *εὐδαιμονία*, appeals to just those common moral opinions as to virtue and vice for which a test, in Prof. Fowler's view, is required. Now if, when we ask how to distinguish what is really "good" in conduct from what is reputed such, we are referred to the effects of actions on social well-being, it is clear that the test will be illusory if the notion of well-being is to be, in its turn, wholly or partially identified with that of good conduct; but it is just this identification that is the prominent characteristic of Aristotle's treatment of *εὐδαιμονία*.

I have hardly space to comment on the last chapter, in which Prof. Fowler gives "some examples of the manner in which the test of conduct may be applied to practical questions, either by extending existing rules to cases which do not obviously fall under them, or by suggesting more refined maxims of conduct than those which are commonly prevalent". But I may observe that the particular duties which he proceeds to enforce are to a great extent such as ordinary men would admit to be obligatory in any theoretical discussion, however much they may practically neglect them; at least I cannot recall any grave arguments in favour of smuggling, evading taxes, accepting or offering bribes, reckless gambling, inconsiderate almsgiving, borrowing without a reasonable prospect of repaying, or the minor social faults of impertinent curiosity, impertinent advice, and the like. And in those cases in which Prof. Fowler has pronounced on points that are really matters of serious controversy, it seems to me that his reasoning is liable to lack cogency from excessive brevity. Thus it is not made clear why "under all circumstances" suicide involves the "evil example of cowardice" more than any other

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avoidance of useless pain: nor, again, why "cock-fights and bull-fights" are to be summarily dismissed as admitting of no justification, if the "beneficial effects in enjoyment" to the fox-hunter are to be adduced to justify foxhunting. Still, in spite of this undue abbreviation of the arguments, the frank, earnest, practical survey of neglected duties which this chapter presents is a commendable feature in Prof. Fowler's treatise; and contains instruction for readers of all classes.

H. SIDGWICK.

The Origin of Ideas. By ANTONIO ROSMINI SERBATI. Translated from the Fifth Italian Edition of the *Nuovo Saggio sull' Origine delle Idee.* Vol. III. London: Kegan Paul, Trench, 1884. Pp. xvi., 442.

In this third and last volume, completing the English translation of the *Nuovo Saggio* (former volumes noticed in MIND XXXI., XXXIV.), Rosmini treats of his intuition or "idea of being," *alias* "Ideal Being," as "source of all certainty," criterion of truth, and inasmuch as "it is the means of knowing all *other things*" *(sic)*, itself Truth or "the truth".

Incidentally, there is much criticism of other philosophies, especially as to their "starting-points," which is of the same indiscriminate and disproportionate kind as was found in vol i., where enormous space was devoted to the discussion of Dugald Stewart's views and other obsolete or obsolescent strings of opinion. Here, while Kant and Fichte are shortly dealt with, Bouterweck and Bardili have an almost equal place, and Cousin has a whole chapter to himself.

As in the other volumes, there is much declamation and dialectical diffusion, frequent 'improving of the occasion,' and the reader is continually on the sublime treadmill of "Ideal Being" —a perpetual motion without progression.

From perusal of the 1200 pages or so of the *New Essay*, the most patient student will probably rise with little but a sense of fatigue and a conviction that all Rosmini had to say to him and this generation, was already sufficiently said in his own summary, the *Sistema Filosofico;* and that the *New Essay*, if thought fit for presentation at all, would have been better presented to English readers in a selection of passages with connective comment.

The most to be made of the gift in hand, is by way of looking for further light on the nature and worth of "Being" as a *primum cognitum* and *conditio cognoscendi.* And the secret of Rosmini seems to be nearly found in the following sentences: "The ancients were aware that all philosophy started from a fact, and that this fact was no other than the intuition of being taken universally—*or, in other words, the actual existence of an intellection*" (p. 36). "What do we mean by saying that our mind conceives things as different from itself? *Simply this, that*

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they are objects of our thought. . . . This is true even when I think of myself; because by this act, I, the thinking subject, become the object of my thought: nevertheless, in so doing, I consider myself in so far as existing in myself and nothing farther. Thought, therefore, essentially terminates in an object, namely, in a thing different from the thinking subject *as such*" (p. 52). So, that we cannot think without thinking thoughts; that knowing implies objects known; that the object, *as object*, is always the object only and not the subject, even where, as in the above *instantia præclara*, they are otherwise as obviously one as in this regard they are two; and that one presupposition of all thinking and knowledge —origin of all ideas—is the form or category of objectivity-in-general, or *a priori* "intuition of Being taken universally"—this is the sum and substance and finally exposed secret of Rosmini. It is true and valid so far as it goes; but that is a very little way, or indeed none at all, when this limb of living thought tears itself off from the life or organic unity of knowledge, petrifies itself, and sets itself up, as it does throughout Rosmini's speculations, for the whole. This usurpation is a self-stultification and suicide, and is best characterised by the words Rosmini applies to Bardili (p. 315): "The greater is the number and excellence of the objects embraced [or embraceable] by a thought, the vaster also and more perfect is that thought. And if we suppose those objects to be entirely withdrawn, the real thought will no longer exist. A thought so abstract, so completely void of objects [and of *possible* objects] is a most attenuated abstraction." One has only had to add the words in parenthesis to make the condemnation adequate to "Ideal Being," since that half-thought is not the embraceableness of aught without its other half. The unifying grasp that confers objectivity cannot be, without the opposing thumb of subjectivity-in-general. Such, then, is "Being," Presence (p. 48), Presentableness, or Objectivity-in-general-by-itself,—the isolated and imbecile and even essentially impossible fraction of the emptiest of categories. In truth, it is but a would-be presentableness—utterly and hopelessly inchoate.

Rosmini's *rationale* of the universe or experience does not start from the prime fact of consciousness, which, as form of intelligence in general, does possess the universal worth or application he claims for his first principle; or, to use his own words, "not from the act" [or fact] "of consciousness itself," [*i.e.*, as a whole], "but from what consciousness, by that act, conceives, and testifies to itself that it conceives, as its object." That is to say, from the whole fact he dissevers its objective phase, moment, or constituent, at the same time divesting it of its native fluent judgment-form and ossifying it into a somewhat conceived, or concept. But this "somewhat" is only a "that which," and is quite bare of real whatness. Notwithstanding, it thereupon begins business on its own account, as maker of mind and origin of ideas.

Another way to understand what Rosmini has done to get his

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beginning, and why, therefore, it is a false beginning that does not begin, and must refuse to develop itself or to explain any development that may be brought to it for explanation, is to see that he has *(per impossibile)* converted the abstract form or *method* of affirming or positing-in-general, into "pure" positedness-in-general—a *conditio sine qua non* of all thinking or thinging into an immense thing or thingness, posing as "the means of knowing all *other* things!"

From this, one draws that the "other things" are somehow things in their own right, and, as such autogenous things, quite independent of Being, whatsoever need they may have of that vast shadowy blank Thing-generalissimo to get themselves drilled, marshalled, and transformed into *known* things. This is what comes of universal constituents or transcendental conditions of the known world, tiring of "validity" and claiming "existence" and trying to figure as concrete parts,—a condescension on the part of these regent movements in the organism of thought, which amounts to abdication and *felo-de-se*.

Suppose the descent allowed. What then? How is the 'pure' Thing, this merely self-identical position *per se*, to serve as test of truth and "source of all certainty"? One hundred pages of this book expound Error, and the upshot is that "error invariably consists in a synthesis of objects wrongly made". If so, then Truth will fall to be defined as *synthesis of objects rightly made*—a right placing of objects in the context of experience. But how will an abstract concept of quite indeterminate being either effect truth or correct error? It cannot be a principle or norm of synthesis, inasmuch as all it can say of itself is, 'that it is,' and only and always 'that it is' or 'that it is the bare possibility of isness'. When the philosopher says 'Move on,' all he elicits is a '*Non possumus*'. Beyond this it cannot go towards gathering, relating and right-setting of objects (or things) not even when "all other things" are given to its hand ready-made, as Rosmini gives them; for with him feelings or felts are already things in "real being" without waiting for any impotent attempt of "ideal being" to grasp and concrete them, and *it* only comes in afterhand to rescue them from a "subjectivity" which they do not suffer from, for surely their feltness is already objectivity enough. One of these "real beings," for instance, is "Myself," and it is astonishing how much it is and how rich, before "ideal being" comes up (p. 127). It is not merely "a fundamental feeling" and a "substantial" one too, but even "a substance, a being subsisting with an internal energy!" And when "Being" has at last arrived—what then? (p. 128). It "exists!" But did not its previous highly complex whatness involve its mere thatness many times over? "Nevertheless, by analysing the perception of ourselves as well as of all other subsistent things, we find that pure existence is an *activity* different from feeling. Whence it follows that we, who are a

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substantial feeling, receive existence from a source other than ourselves." I confess I cannot follow Rosmini here, and he himself forbids me in a thousand places. Pure being through its very purity or indeterminateness cannot be determined to *activity* (p. 52). "*To exist and to be present* are different from *being engaged in an action.*" "Activity" is quite another point of view than "Being"; though probably neither attains its truth and meaning without the implication of the other; and it may require the implication of many other points of view or methods of synthesis, a manifold stereoscopy, in order that "things" may have what one may call a solid standing in the world of experience. Amongst others, one might say that the category of self-consciousness, as general type of self-reference and coalescence or concretion—*i.e.*, of Being-for-self—must have been in some inward way imputed to a manifold before there can be a "thing" or even a single least "feeling". For, perhaps, it is only because 'a many' is already 'a many of *ones*,' and of true ones or unities, and in no other way can be a many or manifold, that there can be any possibility of 'a many *in* one,' a true one or unity, such as every merest feeling is, if it is at all. In other words, it may be that "feeling" is feeling because it is always more than feeling by so much inwrought thought, and there is never either matterless form, like Rosmini's "Being", or formless matter, like Kant's manifold.

Our admiration of Rosmini's fervour, eloquence and good intent, cannot blind us to his first and pervasive mistake. He had the misfortune at the outset to break the category of self-consciousness in two, and picking up the objective fragment to think he had found the clue to the right and only possible synthesis of experience. To make matters worse, he took the fragment statically rather than dynamically, in pause and at term rather than in act, as the actuality of possibility rather than as the possibility (potentiality) of actuality, and as universal *ante res* rather than as universal *in rebus.* This misapprehension will probably be found to vitiate his philosophy throughout.

He has criticised Kant's psychological dualism without discerning that he himself is only a psychologist and dualist, sundering "Pure" Idea from "Pure" Reality, Sense from Intellect, as hopelessly as Kant does anywhere, and, when he examines Fichte's theory of knowledge and being, showing that he himself has entirely missed the philosophical problem and point of view. Take this example of misunderstanding. "Fichte pretended to draw everything from the *human* subject!"

Rosmini, much in love with the naïve and unmediated realism of Reid's school, set out in search of a *reasoned* realism, and so far good; but what is the staff (Ideal Being) he trusts to on his journey but a broken reed? Often by the way he finds fault with the "subjectivity" of Kant's categories, and this fairly enough where he finds Kant psychologising and machine-making:

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but what is to be thought of his own, when, nearing the end of his essay, he tells of Being, that "it reveals to us no subsistence outside the mind, and on this account may be called by the name of logical being", and (p. 335) "is simply a logical principle, a rule to direct our spirit, an idea". Has Kant ever more effectually shut us up? Thinkers less heavily-armoured and nimbler may find relief in the *aperçu* that absolute and universal subjectivity and absolute and universal objectivity are all one. But this way of escape is not for Rosmini, immersed in the psychological *plane*; for to rise up and leave the ring of vicious because partial subjectivism in this quiet way, requires a kind of third-dimensional thinking.

Still it would be unfair to Rosmini to close without brief statement of his own heroic and magical way. With one turn of his kaleidoscope, he recovers sight of his lost "realism"—now transfigured and mystical. Besides felts and knowns and objects and subjects, there are now (p. 107) facts-in-themselves, neither felt nor known, and evidently quite unknowable in their inseity on any terms (p. 114). "The matter of cognition, the fact taken by itself alone, is a thing mysterious and occult". Nevertheless "this mysterious and occult *activity* (!) lying in the fact, is the root of knowledge itself!" Yet so far, the facts-in-themselves seem doomed to irremediable opacity. But with the next turn of his instrument, Rosmini gives us a fair prospect of eventual transparency. "Being" is no longer mere inert being, but "Activity" or Life *par excellence*. Now (p. 116) "what we see by nature is the first of all activities"; and "were this being, by unfolding itself more openly before our mind, to emit from within its hidden depths its proper activity so as to be terminated and completed, we should see God". "Hence if we knew being perfectly, that is, with all its terms, we should, as S. Thomas says, know all things."

Thus we are given to see mere Being or blank surface acquiring depth, depth acquiring many-shaped and coloured content, this All becoming diaphanous and alive with self-determining activity, and the infinite self-difference returning into itself and its unity in the all-embracing self-consciousness, God—the universal spectacle which is its own spectator, of whose countless eyes the reader is perhaps one in embryo, an incipient facet of the infinite subjectivity over against the infinite objectivity. With this momentary glimpse of a beatific vision, the curtain must fall.

J. BURNS-GIBSON.

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Esquisse d'une Morale sans Obligation ni Sanction. Par M. GUYAU. Paris: F. Alcan, 1884. Pp. 254.

This is an interesting and valuable essay towards the establishment of a "scientific" ethics. The author, who is already favourably known for what he has done in recording the history of ethics, has now set himself to make material for that history.[1] He does not, indeed, break absolutely new ground, for Spencer, Simcox, Stephen and Höffding are among his predecessors. Yet he has ideas of his own, both as to the details and as to the general position of his subject, which justify this independent contribution. His work is written in a lively and often forcible style, although a tendency sometimes shows itself to substitute illustration or epigram for argument. This tendency appears in a confusing way, even when he is defining the limits of his inquiry. Thus he says (p. 9):—

"Quel sera donc le but naturel des actions humaines? Lorsqu'un tireur s'est longtemps exercé sur une cible, et que l'on considère les trous innombrables dont il a percé le morceau de carton, on voit ces trous se répartir assez uniformément autour du *blanc* visé. Aucune des balles, peut-être, n'aura atteint le centre géométrique du cercle de la cible, et quelques-unes en seront fort éloignées; néanmoins, elles seront groupées autour de ce centre suivant une loi très régulière que Quételet a déterminée: la *loi du binôme*. . . . Cette recherche, après coup, du but visé par le tireur peut être comparée à celle qu'entreprend le moraliste quand il s'efforce de déterminer le but ordinaire de la conduite humaine. Quelle est la cible constamment visée par l'humanité?"

I quote this passage to show what a multitude of assumptions may be covered by a single metaphor. The assumptions in this case are three:—(1) that there is one permanent or constant end which human conduct always aims at; (2) that this end is either unconsciously pursued or, at least, never aimed at consciously by those whose testimony as to its nature can be trusted: so that, in order to ascertain what it is, we must simply observe the external facts of conduct, and from them infer what the mark aimed at has been; (3) that, when this has been done, we have got a theory of ethics. Of the assumptions made here implicitly, the first and third are more or less explicitly adopted and defended, the second is not referred to. As regards the third of them, the author is, of course, not ignorant that it is one thing to find out the actual conduct of men; another thing to determine how they ought to act. The former question belongs to anthropology or to psychology; the latter is commonly regarded as the properly ethical question. Yet this is the question which

[1] The second of M. Guyau's historical volumes *La Morale anglaise contemporaine*, reviewed in MIND XVIII. (after the earlier one, *La Morale d'Épicure*, MIND XVI.), has just appeared in a second edition (Paris: F. Alcan) with a short chapter, pp. 187-94, inserted on "The later disciples of Darwin and Mr. Spencer: Clifford, Barratt, Leslie Stephen".

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M. Guyau expressly dismisses. He will have nothing to do with final causes, only with efficient causes ; not the desirable, but what is actually desired is to form his subject (p. 8). And he seems to think this a consequence of his claim that morality should be treated from the purely *scientific point of view.* Every moralist should admit this claim so far as it is a claim for scientific or logical method. But in our author, and in many other writers, it amounts to a claim to treat morality from the *point of view of some other science.* It is thus really an endeavour to do without the fundamental conceptions of morality, and seems as little likely to lead to satisfactory results in ethics as it would be, in biology, to ignore the fact of life, or, in physics, to dispense with the conception of energy.

The assumption that there is one constant end of conduct is also frankly stated. M. Guyau even adopts the maxim of psychological hedonism : "that conscious life follows the line of least pain" (p. 9), or—generalising the proposition so as to admit unconscious and automatic acts—"the line of least resistance". And this is identified with the evolution of life (p. 11) ; while the end of action is but motive cause become conscious (p. 10). Life, or the evolution of life, is, therefore, our author holds, at once the cause and the end of all human and animal conduct; and this cause in action takes the line of least resistance, which, in the case of conscious beings, is the line of least pain. M. Guyau thus shares with most evolutionists the over-hasty generalisation which identifies the evolution of life with the increase of pleasure and diminution of pain. Yet all that the theory of evolution shows is that there is a tendency to bring together pleasurable acts and acts which preserve life and aid its development, and to make the actions hostile to this preservation and development painful. This, however, is only a tendency which has not resulted, and is not likely to result, in a complete concomitance of pleasure and development. Painful effort is called into play in order to meet the complicated adjustments which increasing function requires, while the slow diminution of spontaneous functioning implied in the process of degradation has been supposed to be highly pleasurable.

It does not seem to me, therefore, that M. Guyau is more successful than his predecessors in getting a satisfactory basis for the ethics of evolution. But this is with him merely a preliminary. His aim would seem to be not so much (as the title of his book suggests) to lay the foundation of ethics without obligation or sanction, as to inquire what substitutes for these conceptions can be attained on the lines of naturalistic evolution According to the author, the admissible substitutes are five in number: (1) the consciousness of our internal *power ;* (2) the mechanical influence exercised by *ideas* upon action ; (3) the increasing fusion of our *sensibilities,* and the growingly social character of our pleasures and pains ; (4) the love of *risk* in

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action; (5) the love of metaphysical hypothesis, which is a sort of *risk in thought* (p. 4). The first three of these are recognised elements in the springs of human activity, and as such are dealt with in M. Guyau's first book, "Du mobile moral au point de vue scientifique"; the two last, on which the author lays great stress, are reserved for the last book, on "Derniers équivalents possibles du devoir".

The substitutes for obligation, then, are to be found in the region of motives to action. Moral action, according to M. Guyau's view, would seem to be that action which leads to the continuance and increase of life. But, as this is the necessary end or motive of all action, it can afford no criterion for distinguishing moral from immoral action—a criterion which seems really to be found in the social (or altruistic) as distinguished from the selfish principle of conduct.

In the first place, it is argued that increasing intensity of life involves its increased expansion. The fact of reproduction is, of course, a case in point; whilst the extra-regarding tendency of strong emotional natures is evident. "Life," says the author, "has two aspects: that of nutrition and assimilation, and that of production and fecundity. Even in the life of the blind cellule there is a principle of expansion which makes the individual insufficient for itself. The life of richest content is most impelled to be lavish with itself, to sacrifice itself in a certain measure, to share itself with others. Hence the most perfect organism will always be the most sociable, and the ideal of the individual life is life in common" (p. 24). But this conclusion goes far beyond what the premisses justify. It is true that the activity of every organism brings it into relation with other organisms. But the organism in which life is fullest and strongest often relates itself to others by sacrificing them to itself, and not itself to them. Self-aggrandisement is an outlet for superfluous vital energy as well as self-sacrifice, and to many organisms it seems a much more obvious outlet. It is true that the selfish tendency is limited by sympathetic emotions; but M. Guyau has not shown that the strength of these emotions is in proportion to the intensity of life.

In the next place, the author tries to determine the measure in which the motive power of action can produce a sort of obligation. The argument here depends on the foregoing doctrine of "moral fecundity," and is applied to will, intelligence and sensibility successively. From the point of view of will, there is a superabundance of vital energy demanding exercise; "every such power produces a kind of duty proportional to it. . . . From this point of view there is no mysticism in moral obligation" (p. 27)—nor, as the previous reasoning has shown, is there any morality. From the second point of view, intelligence is a motive power, the very conception of an action producing a tendency to act so as to realise it. "What is called obligation or moral constraint is,

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in the sphere of intellect, nothing but the consequence of this radical identity" between thought and action (p. 28)—except that, in what is ordinarily called obligation, the moral constraint is to do good, whereas M. Guyau's substitute for it applies equally to good and evil. The nearest approach to a distinction which the author gets is when he adopts the third point of view, that of sensibility. Now it is certainly true that the "social sanction" goes much deeper than the rewards and punishments, or good and ill report with society, relied on by individualistic ethics. "One always feels a sort of internal pressure exercised by the activity itself in these directions; the moral agent, by a propensity which is at once natural and rational, feels himself impelled in this sense, and feels that he would have to make a sort of inner *coup d'état* to escape this pressure: this *coup d'état* he calls fault or crime. And in committing it the individual wrongs himself: he voluntarily diminishes and destroys part of his physical or mental life" (p. 33). This position, which resembles that adopted in Miss Simcox's *Natural Law*, does not allow for the fact that the course of development has brought other than social feelings into play. In the evolution of conduct, there naturally arises a diversity of instincts, the result of previous habits of acting, which exert, partly unconsciously, partly consciously, a pressure or impulse to act upon the individual will. Certain of these impulses or instincts are (or, rather, seem to be) indestructible. These act permanently or constantly, and are not connected with the satisfaction of a transient desire, but with an expenditure of force which may work itself off in various ways; this being the explanation of the tendency such instincts have to become insatiable and continuous. It is important, however, to remember that "this sentiment of obligation is independent of the *direction*, moral or not moral, of the instinct" (p. 43); so that it seems inconsistent to restrict this quasi-obligation to those tendencies which are in harmony with the development of the species (p. 42). There may be such a pressure to act in certain ways; but it is not exclusively in the lines of sociality, for the selfish instincts have a like indestructibility and constancy with the social.

An important aspect of the question, which M. Guyau discusses in an interesting way, is the relation of consciousness to this, and, generally, to all instincts. He contends that the instinct, by becoming conscious, tends to rationalise itself, and thus to cease to exist as instinct. There is a constant tendency, therefore, not merely for moral impulses and sentiments to become more conscious, but also for them to pass into a different—a rational—form; and, unless they have a rational, as well as an instinctive, basis, the tendency is for them to pass away altogether. There is no danger, he thinks, of Mr Spencer's prophecy being fulfilled, and the altruistic instinct becoming so strong that men will compete with one another for opportunities of self-

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sacrifice. The danger consequent upon the disappearance of instinctive morality would seem, indeed, rather to lie in an opposite direction—in men asserting for themselves individually their "character as rational beings, which is," Prof. Bain says, "to desire everything exactly according to its pleasure-value".

It is necessary to omit consideration of M. Guyau's criticism of the ordinary ideas of obligation and sanction, and to pass at once to his own original contribution to the subject in book iv.

With the tendency of life to expansion, the influence of ideas on action, and the increasing sociality of the sentiments, there is still much left to be done for our author's theory. "A morality exclusively scientific cannot," he acknowledges, "give a definite and complete solution of the problem of moral obligation" (p. 136). We must pass beyond mere experience; and M. Guyau's substitute for duty is completed by the element of *risk* in life and thought. Under this idea of risk, M. Guyau considers two things which he seeks to bring into close relation: the pleasure got from risk and danger, and the "metaphysical risk" in speculation and moral action. In the first chapter of this book he gives an interesting analysis of the fascination which an element of enterprise and uncertainty lends to action. Yet the habit, which reflection encourages, of examining the ends of conduct and estimating their utility, after discounting the pain to be undergone for their attainment and the risk of failure, tends to diminish the pleasure-value of the enterprise.

A consideration similar to this applies with additional force to the chapters on "metaphysical risk" in speculation and action, in which M. Guyau seeks to supply the deficiencies of his substitute for moral obligation. It is true that metaphysical speculation may be valuable even as an intellectual gymnastic, and that there is something ennobling in following duty rather than the seductions of desire, or in subordinating private ends to the good of others. If I understand him aright, this is the element of the old "absolute morality" which M. Guyau wishes to preserve, and which he thinks can be preserved by allowing the freest scope for speculative hypotheses or poetic fancies as to the ultimate ground of things. To justify rationally an act of charity pure and simple, the moral agent must objectify the sentiment by which he acts and imagine an eternal charity at the root of things (p. 227). But if an opponent were to write the word "selfishness" instead of "charity," I do not see what good answer M. Guyau could make to him. It appears to me, moreover, that the author has overlooked the fact that, just as consciousness is fatal to instinct and makes it give place to deliberate and reasoned action, so speculative beliefs are changed in character when subjected to criticism. If they can stand the criticism, they retain their old influence on a more secure foundation; but, if reflection shows them to be baseless, they inevitably —though, perhaps, gradually—lose their power. Now, according

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to M. Guyau, the metaphysical basis sought for moral ideas is logically invalid; and his warm endeavour to retain them as hypotheses is really an attempt to found right action on speculative illusion. As he acknowledges (p. 230), such ideas will only have the force of obligation so long as the hypothesis on which they rest is recognised as the most probable by me; and, he might have added, the force of the obligation will diminish as the probability appears to decrease. But, on his own principles, the hypotheses by which morality is to be supported are not valid hypotheses at all; for each of them could be opposed by a contrary hypothesis, equally valid and equally invalid, since he leaves no means of deciding between them. The result may be matter of regret; but if M. Guyau has killed the goose, how can he expect any more golden eggs?

It seems to me, therefore, that M. Guyau's work cannot stand the test of self-consistency, while it shows the confusion of points of view common in so many of the attempts to build a theory of ethics on the basis of natural evolution. Yet his book possesses, in a very striking way, "les qualités de ses défauts". Coming so soon after M. Fouillée's quest for the foundation of morality in the limits set to thought by an over-confident agnosticism (*cf.* MIND XXXVI., 592), it is of peculiar interest. The author seems to acknowledge, as Lange did in concluding his *Geschichte des Materialismus*, that Idealism is necessary for Ethics; and, if the structure he raises is insecure, this is due to the crudity of the materials out of which he has to construct his foundation, rather than to any want of skill on the part of the builder.

W. R. SORLEY.

Biologische Probleme zugleich als Versuch zur Entwicklung einer rationellen Ethik. Von W. H. ROLPH. Zweite, stark erweiterte Auflage. Leipzig: Engelmann, 1884. Pp. vi., 238.

As already mentioned in a preliminary note (MIND XXXVI., 612), the author of this attempt to construct a rational ethics on a biological foundation (first published in 1882) died prematurely, of pulmonary disease, in 1883, when preparing the present much enlarged edition, which Prof. v. Giżycki of Berlin has finally revised and seen through the press. Born at Berlin and educated in Germany, Rolph was the son of an English father, and it is interesting to see how frequently he refers to recent English writers on ethics, of all degrees. He was a trained naturalist and had already done original work in biology when he began to give attention to ethics. In the present volume, too, considerable space is given to biological observation and theory; a speculation on parthenogenesis, in ch. 5, being particularly noteworthy. The chief thing to be aimed at here, however, is not to give an account of his special work in biology, but to show how he has developed his ethics from ultimate biological principles.

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Rolph's ethical doctrine is based on his view of evolution. He contends, in opposition to Darwin, that the cause of evolution is not to be found in a struggle for mere life, but in a struggle for improvement in the conditions of life. Darwin's theories, he thinks, have been too much influenced by the Malthusian law of population. Competition for food between organisms of the same species is really a secondary phenomenon, not one that everywhere accompanies life. And the effect of pressure of population, where it exists, is not to cause advance, but rather degeneration. Advance in organisation always springs out of a state of prosperity, a state in which there is abundant nutriment. It consists solely in greater adaptation to the conditions of life, in increased power of appropriating the material which the environment supplies. When an organism,—a parasite, for example,—loses some of its organs through disuse, we must not call this degeneration. If by losing organs an animal is enabled to survive and obtain more abundant nutriment instead of succumbing to the agencies that threaten to destroy it, then it is advancing in organisation though not in complexity. Every new position gained by the organism in its progress is a limit which it again strives to pass beyond. We find everywhere the impulse to improve the conditions of life. Thus there is an active struggle among organisms, not a mere "defensive war"; each struggles to obtain the greatest possible advantage for itself. The command of "animal or natural ethic" is, therefore, not simply self-maintenance, not "to live normally," but to pass beyond the limit that has hitherto been the normal, to develop new needs and to satisfy them.

The impulse of organisms to advance is deduced from a law of assimilation which, it is contended, can be stated in mechanical terms. All organic matter grows by a process of diffusion, a process in which endosmosis predominates over exosmosis. Diffusion is a purely mechanical process; and by a consideration of the nature of this process, as it takes place in organic matter, all the phenomena of nutrition, of cell-division (which is merely growth beyond the limits of the individual cell), and of reproduction (which is, ultimately, a process either of cell-division or of nutrition), can be completely explained. There is no limit to the process of assimilation by endosmosis. Each cell, and consequently each organism, has the property of "insatiableness" (Unersättlichkeit). Thus we may speak of a "mechanical hunger" as the cause of all the actions of organisms. To this, at a certain stage, "psychical hunger" begins to correspond. This first makes itself felt as pain. Pleasure is only a secondary phenomenon. The cause of all action is, psychologically, pain. For pleasure, being a state which we seek to prolong, can never be the cause of a change of state. When we seek a greater pleasure in place of that which is present, the *end* of the action is certainly pleasure, but the *motive* is a feeling of dissatisfaction, that is, of pain. And this must always be so. Pleasure may be the end, but only pain can be the motive of action.

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Pleasure is not, as Mr. Spencer says, the accompaniment of normal action, but only appears when the limit of normal activity has been exceeded. The "happiness" which all living beings, from the time when they become conscious, desire, must be expressed, as the hedonistic schools maintain, by a sum of pleasures. In the course of evolution "absolute happiness" increases, while "relative happiness," that is, the happiness attained as compared with the ideal of happiness, diminishes. The state of perfect adaptation to the environment which is regarded by Mr. Spencer as the goal of evolution, is unattainable. In Mr. Spencer's view there is a "concealed teleology" which must be got rid of if we are to have an ethical doctrine based not on "subjective optimism" but on the objective study of life and its conditions.

Mr. Spencer in vain tries to find the beginnings of altruism in the lowest animals. Unconscious altruism is not altruism at all. "Animal ethic" is purely egoistic. It is only in the higher animals that we find the beginnings of social life; and it is among the social animals that the first limitations are imposed on egoism. Social life in man begins within the limits of the family. It extends itself not spontaneously but through constraint. Families first united with one another in tribes in order the better to defend themselves in the war of all against all which became fiercer as population increased. The idea of justice for a long time had no application beyond the limits of the tribe. It is in reality an extension of the primitive egoism. Sympathy is not strong enough to serve as a basis for morals. "Human ethic" must be based on the extension, first to all members of the tribe and afterwards to men in general, of the feeling which each individual at first has of his own right to all that he can obtain. Altruism has gradually extended itself as a consequence of increasing co-operation and division of labour, and these again have had their origin in egoistic emotions.

Moral precepts are statements of the course of action which is right under given circumstances. When the circumstances are those that are common to all places and times the precepts are of universal validity, and there are, corresponding to these precepts, virtues the practice of which is always obligatory. But the virtues are means to the attainment of happiness, not ends in themselves. The duty to practise any virtue is not thinkable apart from an authority that has the power of making itself obeyed. "Personal authority" is derived from the "authority" of the conditions of life. Man has no innate tendency to do right. The "innate tendencies" of human nature are the egoistic, unsocial ones. The principles of right action have to be taught again to each new generation; and inherited predisposition to virtue shows itself at most in greater susceptibility to moral education. The end of moral education is not, as some would have it, to produce characters that are spontaneously virtuous, but to cultivate as highly as possible the disposition to reflect on the ethical quality of actions. The ideal state is not one in which all are spontane-

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ously moral, but one in which no one ever acts without reflection. There is no final reconciliation of "natural" and "social" ethics, the ethics of egoism and the ethics of altruism. They neither absolutely coincide nor are in absolute contradiction.

Through seeing clearly that the struggle in which favourable variations are selected for survival need not be a struggle for existence and nothing more, Rolph is able to correct many false social and ethical applications of biological theories. But his discussion of the causes of evolution suggests more than is implied in a slightly modified view of natural selection. He brings out clearly the question as to the meaning of the tendency organisms have to vary. He sees that forms of life are quite capable of advancing in organisation apart from the influence of natural selection; that, unless this were so, natural selection would have no materials to work on. At the same time he sees that to speak of an inherent tendency to develop is not an explanation of development. The explanation is found by him in the theory of the "eternal hunger" by which organisms are impelled to strive for an increase of life. Lange, he says, nearly arrived at the view that improvement and not mere persistence in the same state of life is that for which all living beings strive; but unfortunately Lange expressed his idea teleologically. It may be remarked that the same idea seems to be present in Hartmann's doctrine of the "teleology of the unconscious". Rolph's theory has, of course, an advantage over the others in that it is a real attempt at scientific explanation, not a mere statement in an imaginative form of that which is left unexplained by natural selection.

In his treatment of "human" as distinguished from "animal" ethic, Rolph succeeds in giving at least the outline of a consistent theory which really has its origin in a biological principle. If too much stress seems to be laid on the "authority" of the conditions of life, on the restraint to which the individual is subject, as the source of morality, it is to be remembered that in Rolph's view an equally essential condition of moral development is the power to put forth activity from within. Here we have an expression of the element of freedom in moral action. Rolph's theory of "hunger" as the primitive feeling, like his theory of the latest stage of the evolution of morals, seems at first to bring into too great prominence one of the external conditions of development—the appropriation of material from without: but here again we see that development is supposed to take place during the process of expending the energy derived from material already appropriated; there are even passages where increased power of acting is said to be the measure of progress in organisation. And throughout, although attention is especially drawn to the external conditions of life, yet development from within is clearly indicated as an essential element in all evolution; for the ideal is placed not in passive but in active adaptation to the external order.

T. WHITTAKER.

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Religionsphilosophie auf geschichtlicher Grundlage. Von Dr. OTTO PFLEIDERER, Professor an der Universität zu Berlin. 2te stark erweiterte Auflage in zwei Bänden. Berlin: G. Reimer, 1883-4. Pp. xii., 640; viii., 676.

The second edition of Prof. Pfleiderer's *Philosophy of Religion* has now been completed by the appearance of vol. ii. It is, as the title-page states, largely expanded from the original edition. Dr. Pfleiderer is well-known in England as being also the author of a book on St. Paul, now translated, and as he is the Hibbert lecturer for this year, a short notice of the present, his most important work, may not be unacceptable.

These two volumes share the encyclopædic character of so many German works. They contain not only a philosophy of religion, but a theology, a comparative history of religion, and a history of the philosophy of religion. The last occupies the whole of vol. i., and it is an admirably clear and interesting account of the subject. It is not matter for a review because it is mainly expository, though the criticism especially upon Kant, whom of course now-a-days we all return to criticise, indicates the writer's position. The review of the present state of philosophical belief upon religion is very useful, and besides this we may refer especially to the chapters on Goethe and Hegel—to the former for its interest, to the latter for the lucidity with which a very difficult point of view is represented. But the appreciation which Prof. Pfleiderer shows for Hegel in vol. i. seems to desert him in vol. ii. (of which we shall now speak exclusively), for he brings against him the old charge of turning all reality into abstract thought, and a similar charge is made against Aristotle's "thinking upon thought" (i. 283). This is contradictory to Hegel's actual habit of regarding thought as concrete and manifested in history in its necessary development.

However, we will not speak of Hegel, because we are afraid of Prof. Calderwood. The method of the present work is very different from that of Hegel's. Prof. Pfleiderer calls it by the difficult adjective "genetico-speculative," the first half of which is translated on p. 663 into "historico-psychological". That is to say, he believes the science of religion has to trace the genesis of religious ideas in two ways: it must trace the actual changes through which they have passed, and in doing so it compares different religions together; and secondly it must point out those sources in the mind from which they spring. Without this previous observation of the human needs to which religion responds, the critical inquiry into the history of religions is impossible and their relative value unascertainable. The science of religion, by taking these two forms, mediates between religion and science (p. 658). But there is the word "speculative" yet to explain, and it comes in to help "psychological," which, as we know, is apt to coquet with a good many more things than psychology. The science of religion, it is rightly held, is incomplete without an

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inquiry into the metaphysical idea of God. It will be as well to indicate briefly the general position which Prof. Pfleiderer takes with regard to metaphysics and religion, as best described in his last chapter on "Religion and Science". Religion is defined in one place (p. 29) as "that relation of life to the power that rules the world which seeks to end in communion of life with it," or again as the desire for communion with God (p. 652). It thus has a character of its own as much as beauty, with which it may be closely compared, and the criterion of its truth is its "value as edification," not its logical correctness as knowledge. But religion, though primarily practical, supposes also the theoretic truth of its ideas, and it may be regarded as the result of the convergence of theoretical reason and practical motives which mutually supplement each other. Thus it is not a mere affair of the heart any more than it is of the reason, but it is a meeting of heart and mind on the one hand, the heart is guided by a "rational impulse" (Vernunft-trieb) towards God; and its sense of dependence changes into a sense of communion with a Being, whom the reason, in its turn, believes to be the source of all existence, becoming in this belief emotional or religious. The theoretic belief in God as distinguished from the religious, Prof. Pfleiderer believes to be the true outcome of criticism. Phenomena are not as with Kant the only knowable realities, but the signs of a reality behind, and things-in-themselves are as necessary to experience as the unity of the Ego itself. But the correspondence of our thought and actual existence is only explicable by regarding them as based alike on a creative reason, the thoughts of which are expressed objectively in the laws of things, subjectively in the native functions of our thought (p. 642).

This idea of God is developed in Section 2, ch. 1. Reality is regarded with Schopenhauer as consisting in will, and this is possessed by all monads in their degrees (compare Lotze's theory). God himself is known by analogy with our own personality (p. 279), and thus is regarded as possessing all such faculties as knowledge, memory and the like. He is thus self-consciousness as the unity of all these faculties, and in the second place he is will; only a distinction must be drawn between the will as internal, and as external or in operation upon external objects. The will of God is immediate or internal, and it is transformed into the mutual interactions of the bodies we know in the world, just as the will of a general is transformed into the movements of his army. Such an idea of God, Prof. Pfleiderer believes to be "concrete monotheism," which unites theism and pantheism, and it is this concrete monotheism of which Christianity is the highest exemplar. For ourselves, we cannot understand how such a distinction in the will can be for one moment entertained, or how the idea of its "transformation" (umsetzen) into actual events is anything more than a mere re-statement of the

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fundamental difficulty. What is fruitful in this view is that it postulates the rationality of the world in God, without which indeed faith and grace would be unmeaning terms.

The actual origin of religion is discussed in Section 1, ch. 1. Prof. Pfleiderer lays greater stress on the facts of religion as discovered by self-observation than on the theories about savage beliefs. In fact, if we may say so, he does not seem quite at his ease with savages. The original form of religion he believes to have been neither Fetichism nor Animism, but what with M. Réville he calls Naturism or the worship of the great forces of nature, on whom man felt his dependence and whom he feared and loved and yearned for. This at first sight is not very unlike Prof. Max Müller's belief that religion arises from a perception of the Infinite. Prof. Pfleiderer then seeks to show how different social processes led this original belief in different directions. With some it became Polytheism, with its transformation of natural into moral Gods, and its accompanying ceremonial and mythology. With some it became as with the Jews the worship of a single God (this is called Henotheism in a sense different from Prof. Max Müller's). With some it degenerated through the disintegration of society into Spiritism or Animism, or finally Fetichism. Now it seems to us impossible to attribute religious progress or degeneracy to social progress or degeneracy: they are both due in their different ways to the same changes of thought. But our purpose rather is to point out an error into which psychology is apt to lead us and has led Prof. Pfleiderer. His analysis of the religious consciousness may be quite correct, but it does not follow that it must be attributed in this form to the original man, any more than it follows, because all religion implies a perception of the infinite, that therefore the original religion was a perception of the infinite as such. Prof. Pfleiderer rightly objects to Animism and Fetichism that they presuppose the abstract notion of soul or spirit (p. 31), but he concludes that therefore they cannot be primary. The objection is equally good against his own theory. In fact there are two totally distinct questions: (1) What is the real nature of religion? and from this point of view religion does imply the notions of spirit or the infinite; (2) What is the first form of religion? and this, to put it moderately, must be decided by the facts. The facts may be as Prof. Pfleiderer states them, but they are not proved to be so by his psychology. The primitive form of religion does involve the essential notion of religion, and yet it may be as far as possible removed from revealing that notion in the shape under which developed religions know it; just as the first kind of punishment may be modelled on private vengeance, and yet the real nature of punishment be totally distinct from private vengeance which it supersedes. And we suspect that Prof. Max Müller has this distinction in mind in his *Hibbert Lectures*, pp. 43-6, though if so he has not there done it justice.

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The rest of the volume is an account of religious ideas, or the elements of them, regarded from the triple point of view of history, psychology and metaphysic. The names of some of the chapters will give an idea of the vast range of subjects treated: *e.g.*, The Development of the Religious Consciousness of the Indo-Germanic and the Semitic Peoples, and of Christendom; the Belief in God, in Angels and Devils; Theory of Creation, of Revelation and Miracles; Redemption and Mediation; Theodicy; Church and Cultus; Religion and Morality. It is impossible to do justice, except in a very lengthy notice, to such a rich collection of well-arranged and well-told facts, and to so much luminous theology and suggestive thought. It will be best to take an example or two of Prof. Pfleiderer's method.

We select his discussion of Redemption and Mediation. He begins by recounting the different forms which the belief has taken from the natural religions and the Persian up to Christianity. He explains the Pauline doctrine as due to a "dialectic" between St. Paul's Jewish presuppositions and their new application to the death of Christ. Christ was to him the ideal or typical man, and his death was potentially the death of all to sin. With this is joined the belief in faith, or the inner process by which all become one in Christ, so that his death is no longer a mere expiation but a proof of God's love. The different views which theologians and philosophers have held are then expounded, and lastly comes Prof. Pfleiderer's own view. Redemption he believes to be founded on an inner experience, which takes two forms. On the one hand, it is the attraction which the good exercises over the will, because of the "impulse which directs the individual will to its source in the will of God". On the other, it is the pain of unattained happiness, and, still more, the sense of guilt. These two elements go to constitute the final experience of faith and the new life it brings. This change is regarded as an effect of a higher power, or as grace, so that it may be expressed in the words, 'The Spirit itself beareth witness with our spirit that we are the children of God'. Now this immediate belief in redemption is the same in all, and it differs only in degree of intensity in the common man and the great religious genius. But it needs the analogous experience of others, and thus in most it is not an original product, but an ideal communicated by others. Hence arises the belief in an actual redeemer or mediator, in whose love for man it sees the love of God for his creatures, and in whose death it sees portrayed that reconciliation of God with man which the individual experiences in the emotion of faith. It is natural that the revelation of divinity contained in such an experience should lead believers to attach to their redeemer a supernatural origin, and that a confusion should sometimes arise between two views of mediation—the one juridical, of the satisfaction of an angry God, the other and true one, ethical, "of the indirect production of the consciousness of

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redemption through the revelation and teaching of its original vehicle" (491).

There is one thing more which we must mention, partly because of its suggestiveness, partly because Prof. Pfleiderer is evidently fond of it himself. This is his view of the form of cultus (§ 3, c. 1). He regards worship itself as containing two elements in solution, that of devotion or the endeavour of man after God, and, secondly, the divine gift and effect enjoyed. This is a double point of view which is to be found all through the book. But we are speaking of the *form* of worship, and this Prof. Pfleiderer regards as a drama which is a representation or imitation of the divine life in which men share. Thus sacrifice was originally an invitation to the gods to share in a common feast (537). But it is best illustrated from Christianity. Baptism, with St. Paul, as the appropriation of redemption by a moral death and rebirth, is the imitation of the death and resurrection of Christ (540). The communion again is the dramatisation of redemption, and the history of the rite shows how one or other of the two elements involved in it has been made prominent, namely, the divine act of grace on the one hand and the human response of faith on the other.

Perhaps these remarks may make it clear that it is as a contribution to the speculative theology of Christianity that Prof. Pfleiderer's book is most valuable. It is needless to say that he is perfectly acquainted with all that criticism has done for the subject: this work is, in fact, a dictionary of the results of the science of religion, not only for Christianity but other religions also. He approaches the subject with a profound belief in the truth of the Protestant faith, and perhaps his writing sometimes has the air of a sermon. But there are very few religious questions which he has left unanswered, and we should have liked to quote more of his answers to them. They are all worth studying.

S. ALEXANDER.

Geschichte der Psychologie. Von Dr. HERMANN SIEBECK, Professor der Philosophie an der Universität Basel (1880), Giessen (1884). Erster Theil, Abth. 1: "Die Psychologie vor Aristoteles"; Abth. 2: "Die Psychologie von Aristoteles zu Thomas von Aquino". Gotha: Perthes, 1880, 1884. Pp. xviii., 284; xi., 531.

This book is too full of matter for detailed criticism in present circumstances, but there should at least be no more delay in following up the brief notices already given of its two Parts, as they appeared, with some more adequate account of the kind of instruction which it makes the first systematic attempt to furnish to students of psychological science. In the author's view, Psychology has now reached a critical stage in its course, when

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future progress depends not least upon a true understanding of the path, or paths, it has hitherto traversed. It has at last, after whatever devious wanderings and changing fortunes, following upon the early start it got from Aristotle, won recognition as an independent science in the modern sense, and, if it is henceforth to be pursued without more interference from metaphysical speculation than any other science must submit to, its past history cannot be too closely scanned in or out of relation to general philosophy. Of historical consideration applied to psychological notions there has, of course, been as little lack as to philosophical thought in general. Zeller is there, for the ancient world, with his mine of psychological as of other information, as indeed no historian of philosophy, whether on the wider or narrower scale, can avoid making mind the very first of his topics. Neither have some of the more distinguished among recent psychologists neglected the help to be got from historical consideration; W. Volkmann especially, in his comprehensive *Lehrbuch der Psychologie*, having displayed extraordinary research of this kind in illustration of his own scientific positions. But History of Psychology, as a continuous tracing of the whole conception men have struggled from the beginning to form of the mental life they distinguish within their being, as yet there has been none. This is the deficiency which Prof. Siebeck here sets himself to supply.

It is not surprising that in such a first effort he limits the field of view by taking no account of Oriental ideas except in so far as, at different times, they can be proved to have directly influenced Western inquiry; but, with the help of recent investigation of human origins, he does not fail, in a general introduction (pp. 1-29), to begin the story from long before the time of systematic reflection. An "anthropological monism"—which recognises, but leaves aside for philosophical consideration, the transcendent aspect of consciousness, and confines itself to the facts of psychical and psychophysical experience in their positive relations—is, in his view, the outcome of the more developed psychological activity of the present century, prefigured at every earlier stage according as the research was conducted in a scientific spirit, and by nobody so decidedly as by Aristotle. The goal, however, has been approached or reached from an original position of crude (objective) dualism. Man, in the earliest dawn of thought, has everywhere been regarded as a compound of two separable beings, soul and body, one within the other—a conception, as the author well urges (pp. 6, 7), suggested in the natural course of waking-experience, and not only by the intermittent phenomena of dreaming or the supreme crisis of death. The problem, then, is to understand how, when express inquiry began in Ionia some six centuries B.C., it has tended by whatever variety of ways towards the actual result.

The whole exposition will fall into three main divisions, of

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which but one is yet completed in the two sections of the present volume. Vol. iii. is reserved for the mass of scientific work that, in this century, has followed the critical investigation of Kant. In vol. ii. the modern movement till the end of last century will be traced from its first beginnings within the Middle Age—in Roger Bacon after Arab initiative towards positive inquiry, in the Nominalists and even in Duns Scotus. So much of mediæval thought being still left over, Thomas is made the final term of the present volume, because in him the Aristotelian doctrine attained its utmost development—in accommodation to the Christian scheme of life which Europe had meanwhile adopted, but still in professed agreement with the conceptions of the master who first gave definite form to psychological science. Within the volume, the special work of the historian is to show how the decisive achievement of one man was prepared by the varied labours of many before him, and affected all later thought about mind for at least 1500 years. In the execution of this task nothing is more noteworthy than the author's width of survey, beyond the conventional lines of treatment. Thus, in the period after Aristotle, great prominence is given to Galen, whose influence, as regards all that concerned the physiological conditions of mental life, superseded Aristotle's own, and remained predominant till Harvey's discovery prepared the way for a truer conception of nervous function; but also at the preliminary stage Prof. Siebeck is able to trace with effect, in what is reported of earliest medical work, the opening of more than one vein of later psychological theory. And of the plan of treatment generally, it may be said that it displays a judicious tempering of regard for mere chronological order with topical consideration. Whether he is dealing with single thinkers of critical importance, like Plato and Aristotle, or with periods in which multitudes of lesser men carried forward the inquiry upon this line or that, the author makes such division of subjects as that effective comparison of the state of psychological knowledge at the different stages is always possible. Mention should also be made of two chapters of special importance (ii. 130-60, 331-42), in which the development of the notions of "Vital Spirit" (Pneuma) and "Consciousness" is continuously set forth at those points of the history when, after long elaboration, they acquired the deeper significance which they were destined to receive and thenceforth retained.

Aristotle, as the central figure, naturally takes the largest space (115 pp., followed by a dozen pages more of summary criticism). Through him Psychology became definitely constituted as a special science on a basis of positive observation; for, though in modern times it has had again to conquer a place among the new divisions of knowledge, nothing is so remarkable as Aristotle's anticipations of the most advanced doctrine as to its scope and method. By comparison with the natural sciences in their positive form, psychology has indeed a history

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of exceptional length, and also of progress which, though slow, has been continuous and steady in the main; the nature of its subject-matter explaining at once how the progress has not been faster, and how it was so early begun. Yet, early constituted as it was, the science of mind was by no means the first achievement of human intellect on awaking to reflection. Two centuries of strenuous thought passed before mind was so distinctly conceived, as to become, with Plato, the subject of special inquiry. The aboriginal dualistic conception of soul as a separable entity spread somehow through the body was there, lingering on for future transformation, but at first it was quite submerged by the thought of finding one universal expression for the whole variety of human experience, which had now been taken into view. A "hylozoic monism," without distinction of mind, or even of life, from other change in things, was the earliest express theory of the universe as a whole. Only when, still keeping in view the need for a comprehensive theory, successive thinkers became struck with this or that aspect of being as more important than others, and in particular awoke, however partially, to contemplation on the facts of subjective experience, and were faced by the contradictions of sense and cognition, did the primitive dualism begin to re-assert itself with new fulness of meaning as the true account of human nature; not without help, as already suggested, from the lights afforded by medical practice. All this is worked out, at adequate length and with great clearness of insight, by Prof. Siebeck. When he passes to Plato, through the Sophists and Socrates, in both of whom, to whatever different purpose, the subjective attitude necessary for psychological science is seen to be decisively gained, he finds it necessary to enlarge to an extent only less than afterwards as regards Aristotle. In Plato the rehabilitated dualism of natural fancy becomes metaphysically theorised with an ethical purpose, yet so as to give occasion for a detailed survey of the whole range of mental life such as no one (at least in the West) had ever undertaken before. None of the phases of human activity, theoretic or practical, remain any longer in shadow; and there is left for Aristotle only the task of re-investigation from a more disinterested point of view—in the spirit of science rather than with reference to a moral and religious ideal. How this was carried through we may here be indicate, not by any attempt to examine Prof. Siebeck's admirable exposition of the Aristotelian doctrine or his view of its strength and its shortcomings, but as we follow his account of the later psychology, and note with him the long-protracted efforts made by professed adherents to understand and develop, or by others to modify and supplement, the scientific scheme with which all had henceforth to reckon.

Two general movements are distinguished by the historian within the time while as yet the Greek (or Græco-Roman) mind

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had not become dominated—though towards the end it was largely affected—by religious ideas of Oriental, chiefly Hebrew, origin: (1) a complex and highly-diversified movement of "monistic naturalism", which evoked (2) a sharply marked "spiritualistic reaction". The first rubric is intended to cover the Stoic and the Epicurean as well as the Peripatetic psychology, with the notable contribution made by Galen and other physiologists engaged in medical practice. Upon this movement as a whole (if it may be called one movement), Prof. Siebeck is constrained at the end to write the word failure; though the observations he records as made within the period, in the series of well-ordered chapters, so brimful of matter, occupying pp. 128-296, may not seldom incline the reader to demur to his depreciatory estimate. It is certainly impossible not to be struck with the advance then made beyond Aristotle, at a multitude of points, towards the accepted positions of later psychological science. If, outside mathematics, there was any progress being made in scientific knowledge, it was mainly in the psychological field. Yet Prof. Siebeck is doubtless justified in asserting that Aristotle's naturalistic successors failed to maintain the inquiry at the level to which he had raised it. When they did effective work, it was by following the lead he had given; and in general they were far from comprehending the profounder (philosophical) ideas that had enabled him to bring mind into line with other subjects of scientific inquiry or even give it scientific treatment in advance of the others. In particular, the conception of man as an organic unity, whereby he was able to give a "real" explanation (in physiological terms) of mental processes and functions—short, it is true, of the highest—while maintaining the independence of their subjective character and reserving their philosophical import, was with difficulty kept by his Peripatetic followers from passing, and often did pass, into an assertion of mere materialism. Epicureans and Stoics, on the other hand, never either of them attained to the height of the conception, but each, in their different ways, secured a real ground of explanation at the sacrifice, generally, of the more distinctive characteristics of mental life.

It is to help in threading his way through the complex tangle of Post-Aristolelian inquiry that Prof. Siebeck finds it expedient, or necessary, to follow out separately, in a preliminary chapter, the history of the notion Pneuma; incorporating, in somewhat reduced form, a research he had previously published in the *Zeitschrift für Völkerpsychologie u. Sprachwissenschaft* xii. 4. From being employed originally, in the sense of air or warm vapour, to designate the inner active principle in man regarded as made up of two extended entities, soul and body, one within the other, Pneuma comes in course of time to be understood as soul in a sense exclusive of all material attribution and more especially, from the religious point of view, as the element in human nature

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setting man in felt relation with Deity. But while soul, under whatever name, is becoming conceived antithetically to body in every respect except in that of real existence, Pneuma tends also to acquire the other import of intermediary between the two opposite terms. The primitive crude dualism thus passes into a trinalism of human nature, not only for Christian teachers and for such metaphysical thinkers as join to supreme concern for an ethical or religious purpose an interest in theoretic explanation. Scientific inquirers also, who start from no definite metaphysical position, are seen to be moved in the like direction of interpreting subjective mental experience, once brought distinctly within ken, as proceeding in connexion with bodily changes through a special agency called Vital or Animal Spirit. To all such, Pneuma, in its original sense of an attenuated matter like air or vapour, offers itself as exactly the mean term that is wanted. Material like the body into which it enters and out of which it passes, it is by its invisibility and rarity akin to whatever can be thought of as opposed to gross material substance and thus to mind or soul subjectively apprehended. Especially will this consideration impress itself upon physiological inquirers, who, as they learn more and more of the detail of vital processes among which respiration stands foremost, have the task of understanding the bodily life in connexion with the mental life so intimately blended with it. It is thus that Galen and his medical fore-runners and successors acquire a peculiar importance in the history of psychological theory. Recognising, as Aristotle did not, the special relation in which the nervous system stands to mind, they elaborated a theory of nerve-action by means of "animal spirits" which, however erroneous from their failure (though distinguishing between arteries and veins) to anticipate Harvey's revolutionary discovery, served to give a truer representation than Aristotle's of the actual physical basis of mental processes and has left abiding traces in common speech. Aristotle himself did not, in his physiology, wholly dispense with the agency of Pneuma in the sense of animal heat; but, besides the physiologists, it was the Stoics who most persistently took advantage of its ambiguous character and, while freely using it as a physical agent wherever called for, sought also to express by means of it not only the being and activity of mind but also the abstract qualities of things through which they become the subject of thought. The notion, in short, is one that, as it is employed, gives the measure, at every stage, of the advance made, on the one hand, in power of abstract conception and, on the other, in determination to keep the realm of properly subjective experience, as it gradually opens up and deepens, in relation with the common ground of physical experience upon which men meet and from which all their inquiry starts. But the final transformation, as Prof. Siebeck shows, which it underwent before it became fitted to serve the purposes of the spiritualistic reaction against naturalism that closed the movement of Pagan

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thought in antiquity, as also the wants of upcoming Christianity, was operated through Hebrew influence. While the Hebrew mind had also started with a physical conception of the active principle of human nature, corresponding to the original sense of Pneuma, it had always viewed this principle as divine in its origin and as a bond between creature and Creator. It is interesting then to note that in the Alexandrian Jew Philo the two currents of Greek thought and Hebrew feeling first come manifestly together, and, as it happens, Philo uses the word Pneuma at different places in such a variety of senses, early and late, that the whole development of the notion can be traced within his writings.

The other notion, of Consciousness, treated apart by the author does not accomplish its development till the next period, when the spiritualistic reaction of the Neo-Platonist school had set in. In the section (pp. 297-357) given to this movement of reversion from Aristotle to Plato, its causes and general character are first set out before the psychological advance, for which the school has not received sufficient credit, is chronicled. The advance, due chiefly to Plotinus, does not consist only in the explicit recognition of what is involved in the notion of Consciousness, but this may be singled out (as by Prof. Siebeck in his special chapter) for particular notice because of its critical importance. That the notion should first have been apprehended in its full import by thinkers who were revolting, under ethical and religious motives, from a naturalism that had passed into materialism and who were ready to sacrifice everything for the restored sense of inwardness, is not surprising. The earlier revulsion of Socrates from a less developed form of naturalism, though similarly motived, led to no such thoroughgoing assertion of conscious antithesis of mind to nature as was now wrung from the Neo-Platonist puritans. Accordingly Plato and Aristotle, in spite of their developed psychology, have no general word to mark the attitude of the introspective observer, nor do they clearly recognise that synthetic activity which is the note of conscious mind alike for psychologist and philosopher. The fundamental deficiency was not likely to be made good in the following period when no advance, but rather the reverse, was made in general philosophical conception. Nevertheless when the time came for protest against the Post-Aristotelian naturalism, Plotinus and the Neo-Platonists had the benefit of the increase of insight that had meanwhile been gained into the details of psychical experience. In Galen and several of the Stoics as well as Peripatetics, may be noted a distinct approach towards the various expressions in which Plotinus was able at last to characterise effectively the attitude of subjective reflection upon the whole round of experience. The significance of the step lies in the fact that without such a conception of Consciousness as was then first attained (though not therefore immediately or indeed for long afterwards utilised), it is impossible to bring into

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view the *phenomenal* opposition of mind and things with which the scientific psychologist has to work.

The final section, devoted to the Christian rendering of ancient psychology, though it ranges over many centuries, from the second to the thirteenth, occupies not much more than 100 pp., for the good reason because there was no scientific advance through all that time to compare with what had been made within two or three centuries before. At first, Christian thought turned mainly upon the question of the nature of the soul, and, under the exigencies of appeal to the popular imagination in regard to a future life, there was a distinct recrudesence of the old materialistic dualism; until Augustin restored the cause of philosophic spiritualism while asserting the duality of men's nature, and fixed the main lines of orthodox animism from that time forth. But Augustin was also, in the more special sense, a psychologist of mark—the one original inquirer in the Patristic period, and his observations (on belief in relation to knowledge, on will and other mental processes), though always having a confessional motive, are such as to deserve all the attention that Prof. Siebeck accords them (pp. 381-97). In the Scholastic period, after an account of some more or less independent tentatives to develop psychological schemes in accordance with Christian needs—which, in as far as they were not independent, took colour from Plato—the historian has to note (in customary fashion) the gradual soaking-in of Aristotelian influence from the 12th to the 13th century. When the saturation of the mediæval mind had become complete, he takes perhaps the most effective way of appreciating the result—in a detailed exposition of the psychological system of Thomas (pp. 448-72).

How far all the various lines of Scholastic activity are brought sufficiently into view cannot be judged till in his next volume Prof. Siebeck traces those other currents within the Middle Age which are the true beginning, so far back, of the Modern movement in psychology. At present some thinkers are passed over, as Anselm and Abælard, who, though they may afterwards be noticed in connexion with the Nominalistic theory which they differently opposed, might have had their places assigned in the general development as thus far indicated. But, however this may be, nothing but thanks is due for the instructive presentation of the Aristotelian psychology in its Christian guise. The large comprehensiveness of the original doctrine, which brought mind into relation with life in general, was not lost upon such an intellect as that of Thomas; giving his psychological thought that disposition which enables the revived Scholasticism of these days—revived or at least re-awakened to militancy—still to present some kind of front to the most recent advances of science. Nor had the Christian discipline failed to direct attention to aspects of mental life which Aristotle had overlooked; so that now they received, upon Aristotelian lines, a systematic consideration as never before.

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The result is a body of psychological doctrine filled out and articulated to a hitherto unexampled degree. Yet it wants the vital spark that quickened the original Aristotelian system. Only at the higher stages of mental development had Aristotle been unable to carry through his scientific conception and been fain to have recourse to the external agency of *νοῦς χωριστός*; but just this foreign element was laid hold of by Thomas and made the means of transforming the whole doctrine in a dualistic sense. It was no longer a dualism of the old crude sort. The abstract thinking of Plato and of Augustin had done its work, and it was impossible any more to represent conscious mind as extended in an extended body. But equally impossible was it to understand how with body taken as absolutely extended conscious mind can be in such relations as it is—affected through body in sense, acting through it in volition, apprehending or, as it were, appropriating it in cognition. There was need, in short, for a radical change of base, if Aristotle's monistic thought was to be carried through or not abandoned altogether. In the light of the general conception of consciousness to which Aristotle had not attained, it had to become understood that the external world of matter, inclusive of the specially-organised body, in relation with which the psychical life proceeds, is not there otherwise than phenomenally; so that nothing hinders the assumption throughout of those determinable conditions of mental process and function whereon the possibility of psychology as science depends. This insight has been gradually acquired during later centuries, but that it was already within the Middle Age beginning to be rendered attainable is, we have seen, recognised by Prof. Siebeck in leaving over to the next Part to come of his work more than one strain of inquiry that accompanied or closely followed upon the scholastic construction of Aristotle's doctrines to which the Catholic Church bound itself. His readers cannot but look with eagerness for the continuation of the History, and wish him strength for the completion of his arduous task.

EDITOR.

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VI.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Types of Ethical Theory. By JAMES MARTINEAU, D.D., LL.D., Principal of Manchester New College, London. 2 Vols. Oxford: Clarendon Press, 1885. Pp. xxiv., 479; viii., 539.

Criticism of this work, now just added to the other important contributions to ethical theory that have marked the last decade, will, it is hoped, not be deferred beyond the next No. It consists more largely than any of those other works of direct historical appreciation, but includes also (ii. 1-279) the systematic exposition of the author's own ethical doctrine. To this he gives the name "Idiopsychological Ethics," and the remainder of vol. ii. is occupied with criticism of "Hetero-psychological Theories" (divided into "Hedonist," "Dianoetic," "Æsthetic"). Before passing thus to "Psychological Ethics," he devotes vol. i. to "Unpsychological Theories," distinguished as (1) "Metaphysical" (including the "Transcendental" theory of Plato and the "Immanental" theories of Descartes, Malebranche and Spinoza), (2) "Physical" (typified in Comte); the whole scheme of treatment being first explained and justified in a short Introduction (pp. 1-22). The historical consideration in vol. i., it should be noted, goes a good way back from the special subject of ethics to general philosophy. The long chapter on Spinoza (pp. 234-369) is not a reproduction or abridgment of the author's monograph on that philosopher, "but a fresh statement . . . marked . . . only by such shifting of emphasis as the special exigency of an ethical treatise demanded". The Preface (vii.-xvii.) contains a singularly interesting account of the author's own philosophical development, as he passed from a state of "willing captivity" to Locke, Hartley &c. to his present position—described at the end of the work as one of such affinity to Kant, at least in respect of ethical theory, that Kant (by name) figures hardly at all in his pages. The generous terms in which J. S. Mill's personal influence is recognised are specially to be remarked. It is the author's design, if strength still remains to him in "the evening twilight of life" (as all must hope it will), to follow up his present work with another devoted to the theory of Religion, with which, in his view, Ethics is organically connected.

Dictionary of National Biography. Edited by LESLIE STEPHEN. Vol. I. (Abbadie-Anne.) London: Smith, Elder, 1885. Pp. vi., 474.

The editor's name is a sufficient guarantee that in this work of national importance due place will be accorded to philosophical writers. In the present volume, with which the great enterprise is in all respects most worthily inaugurated, the philosophical names are few and not of much account: besides Alcuin and Alexander of Hales (treated by Prof. Adamson), with one or two other Scholastics, only Abercrombie and Aldrich falling within it. It is intended to issue successive volumes at intervals of three months, and the whole work will, it is confidently expected, be completed in about fifty volumes.

Ethica: or The Ethics of Reason. By SCOTUS NOVANTICUS, Author of *Metaphysica Nova et Vetusta.* London: Williams & Norgate, 1885. Pp. viii., 195.

This work is the complement of the author's previous essay reviewed in MIND XXXVI., 574-9, and will receive, in turn, the like consideration.

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Basing upon his former results he now endeavours "to show that Will, containing in itself kinetic initiation and form of end, is metaphysically free and supersensible: that, while the aim of all science is the filling of the *a priori* categories, thereby to get for self-consciousness the idea of each thing as a *harmonia rei*, and ultimately as part of a *harmonia rerum*; so, in the ethical sphere, the aim is such a *harmonia morum* as shall complete the self-realisation of man".

Of Philosophy in the Poets. By JAMES HUTCHISON STIRLING, LL.D. Edinburgh: Oliver & Boyd, 1885. Pp. 46.

The Community of Property: Nationalisation of Land. By the Same. Same Publishers. Pp. 40.

The first of these pieces was delivered as opening lecture to the Edinburgh University Philosophical Society in its present session, and is published by request. The author, assuming the alliance between poetry and philosophy, confines his remarks to English poets, and, dividing them into three periods, again limits himself to the first two, ending respectively with Milton and Cowper. Starting from Cowper he glances lightly at Beattie, Gray, Collins, Goldsmith, Armstrong, Akenside, Thomson, Young, Pope and Dryden in retrogression, and then in the first period, after a word on Chaucer and Spenser, enlarges upon Milton and Shakespeare. Milton (whom he regards as of all poets the most musical) gives him occasion for a very striking digression on the question of free-will (pp. 26-34). Shakespeare he declares, and after specimens given of "philosophical pregnancies" re-declares, "the vastest subject that ever took into himself the whole huge object".

The other piece, before passing into an economic argument against Mr. George, includes some pages of interesting reference to the philosophical conceptions of property, chiefly those of Aristotle and of Hegel, whom Dr. Stirling sets together above all other writers on politics or practical philosophy.

The Veil of Isis: A Series of Essays on Idealism. By THOS. E. WEBB, LL.D., sometime Fellow of Trinity College and Professor of Moral Philosophy, now Regius Professor of Laws and Public Orator, in the University of Dublin. Dublin: Hodges, Figgis; London: Longmans, 1885. Pp. xiii., 365.

In this sketch of the history of modern speculation with reference to the external world, the author develops further the idea of his book on *The Intellectualism of Locke.* Locke's "intellectualism" was found especially in the distinction of external and internal sense, in the "ideas of relation" called by Locke "the creatures and inventions of the understanding," and in his view of necessary and demonstrative truth. Dr. Webb now goes on to show that there is an element of intellectualism also in Hume, in Berkeley and in Bacon. Bacon's "anticipation of the mind" and the "common principles" and "common notions" of his "first philosophy" are a foreshadowing of the Kantian doctrine; the "transcendents" or "common principles" are "the categories in an embryo state". The "notions" of Berkeley are an intellectual element that has not been sufficiently recognised in his empirical idealism. Hume's *Treatise* is an anticipation at least in outline of everything in Kant's *Kritik.* The chief difference between Kant and Hume was that Hume "employed the simple language of ordinary men" while Kant "invented an artificial language for the schools". Kant misunderstood Hume as Leibniz misrepresented Locke; for, although Hume rejected Locke's theory of the origin of ideas (in laying it down that "reason can never give rise to any original idea" such as

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that of substance or cause), he accepted Locke's theory of knowledge (in recognising "ideas of relation" and especially in his view of mathematical proof). In his classification of relations Hume anticipated the deduction of the categories. "But if Hume was the Copernicus of the new way of investigating the phenomena of the mind, Kant must be regarded as its Newton." The final result of philosophical development is, that absolute certainty is unattainable; the image of the veiled Isis described by Plutarch still remains the symbol of the reality of things: we must therefore act on probabilities. This conclusion had already been reached by Hume when he said that his philosophical scepticism disappeared in practical life. Here there is agreement with the school of common-sense. Reid's insistence on the necessity of acting according to the natural view of the reality of objects was therefore superfluous as against Hume. On the speculative side the "natural realism" of Hamilton, equally with that of Reid, completely fails as an attempt to answer either Hume or Berkeley. Hume, while anticipating the philosophy of common-sense (and at the same time Kant's doctrine of the practical reason), carried out his speculative philosophy to the most consistent idealism possible. In saying that "the idea of existence is the very same with the idea of what we conceive to be existent," he unconsciously reproduces the conclusion of Parmenides and anticipates Hegel.

Social History of the Races of Mankind. First Division: 'Nigritians'. By A. FEATHERMAN. London: Trübner, 1885. Pp. xxvi., 800.

The fifth, but first-published, division ('Aramæans') of this extensive work, was noticed in MIND XXV., 143, just after its appearance in 1881. Now that the first has followed, the other four divisions of the author's scheme ('Melanesians,' 'Maranonians,' 'Turanians,' 'Iranians') may be expected at shorter intervals, for he states that he has six other volumes ready for the press and that the whole work may thus be completed within three or four years. The industry shown by the author in collating the mass of literature bearing upon the seventy or more tribes which he distinguishes within the Nigritian stock—"the most ancient of all the types of mankind," as he considers it—is truly astonishing. His account of the physical, mental and social characteristics of each is set out according to the same scheme as he had employed in his former volume, but he gives the scheme now, in his present preface, the more explicit statement which before was wanting. Comparison is also aided by a very useful index. The author wishes his work in its entirety to be "considered as a manual of Sociology—a science as yet non-existent, but which, it is hoped, some man of genius will now be able to create with the elements here systematically arranged and placed at his disposal for judicious elaboration". Here he appears to betray ignorance of the constructive work done by others of late years; nor, it must be added, are his sources of information, as to facts, always of as recent date as they might be.

Phases of Opinion and Experience during a long Life. An Autobiography by CHARLES BRAY, Author of *The Philosophy of Necessity, &c.* London: Longmans, Green. Pp. 284, ix.

The author of *The Philosophy of Necessity* (1841, 2nd ed. 1861) died on the 5th October last at the age of 73. Three weeks before his death, and not expecting to survive above a month, he dictated a few sentences of striking "Conclusion" to these autobiographical chapters, which he had lying by him in printed form since 1882. An Appendix (pp. 207-84) is made up of reflections and quotations on the topics that had interested him through life, jotted down from the beginning of 1884. The book

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is a curious medley, but contains passages that deserve reading for their honesty of thought and straightforward expression, and gives throughout a picture of fine cheery stoicism and beneficent helpfulness in the man. An enthusiastic phrenologist, while he dabbled in matters of philosophy, he was not able, as he tells us at p. 24, to think well of this Journal; finding it (as some others do not) too "purely metaphysical"!

Notes on Inductive Logic. (Book I.) Being an Introduction to Mill's *System of Logic.* By THOMAS WOODHOUSE LEVIN, M.A., &c. Cambridge: Deighton, Bell. Pp. 150.

Twelve Lectures in two Parts, following on an introductory Historical Retrospect (pp. 1-19). Part i. gives "explanations of notions and terms which were once specialised technicalities of logical science but which are now so interwoven with current modes of thought and expression that a familiarity with their meaning is an indispensable part of all literary training"; also some account of Syllogism. In Part ii. the author seeks by a "more accurate definition of the sphere of Causal Induction" to remove "the ambiguities and inconsistencies" attaching to Mill's otherwise "profound and exhaustive treatment" of the Experimental Methods of Induction, which "constitute the rational procedure of all Experience and the Logic of Facts". In another publication to follow, he will deal with the causes and remedies of Intellectual Error, expanding the topic commonly discussed as Fallacies in the logical books.

Sympneumata or Evolutionary Forces now active in Man. Edited by LAURENCE OLIPHANT. Edinburgh and London: Blackwood & Sons, 1885. Pp. xiv., 288.

Man: Fragments of Forgotten History. By Two Chelas in the Theosophical Society. London: Reeves & Turner, 1885. Pp. xxviii., 165.

These two works are of a class hardly to be reckoned with in a journal of such humble pretensions as MIND. In the first, Mr. Oliphant, "on the slope of Mount Carmel," takes down from the lips of an unnamed seer (or seeress) a revelation of the past and future of the race which goes far beyond any instruction that so-called history and science have been supposed to yield; and takes it down so faithfully withal that he has not in general thought it necessary to give literary form to the curiously perplexed and cumbrous language of the deliverances. In the other volume, the two "Chelas" (or seekers after "Esoteric Doctrine," one of them Eastern and the other a Western—with the more florid fancy of the two) take down from *their* "Master" some better-written fragments of a story which makes the same claim to be the absolute and deepest truth about man, though it is not the same story. Not that the two revelations have not their points of contact: both, for example, have it that man was originally bisexual (though again they differ in their account of how the divarication came to pass). *Sympneumata* is indeed mainly concerned with the problem of the recovery of the lost "biunity"; each human defective having now to find his or her sympneumatic complement. When these disclosers of a verity not to be attained by the methods that pass as scientific can agree among themselves, they may have a stronger claim on the attention of those whose "science" certainly leaves them with plenty of ignorance. Both books have meanwhile the merit of indicating how great that ignorance may be.

Philosophy and Faith: A Plea for Agnostic Belief. By JAMES M. HODGSON, D.Sc., Professor of Apologetics, Lancashire Independent College, Manchester. London: Simpkin, Marshall, 1885. Pp. 31.

"The aim of this paper is, *first*, to inquire to what extent the contents

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and objects of Religious Faith do or do not lie 'within the boundaries of possible knowledge,' and do or do not present 'the indispensable conditions of knowledge'; and, *second*, to indicate the impossibility of surrendering that 'unqualified assurance' in which we revel respecting them, in spite of its condemnation by Scientists and Rational Philosophers as 'a belief void of justification'."

Man's Destiny viewed in the Light of his Origin. By JOHN FISKE. London: Macmillan, 1884. Pp. 121.

A summary of the author's view of evolution, ending with an expression of belief in the immortality of the soul, not as a scientifically demonstrable truth, but as a faith without which "the reasonableness of the universe" cannot "maintain its ground". Evolution in man will henceforth restrict itself to psychical evolution; hence no new species higher than man can be produced. The struggle for existence will give place to "direct adaptation". Man's life, beginning as life in the family, which was a consequence of the prolongation of infancy through increased psychical development, has gradually advanced from the predatory to the industrial stage, and will have reached its highest form when "the pacific principle of federalism" shall "reign supreme over all the earth".

Prolegomena of the History of Religions. By ALBERT RÉVILLE, D.D., Professor in the Collége de France, Paris, and Hibbert Lecturer for 1884. Translated from the French by A. S. SQUIRE. With an Introduction by Professor F. MAX MÜLLER. London: Williams & Norgate, 1884. Pp. x., 230.

M. Réville's *Prolegomena* (the reproduction in a condensed form of lectures given at the Collége de France) are introduced to English readers by Prof. Max Müller as an example of the scientific study of religion on its only possible foundation, that of exact scholarship. The anthropologists will, of course, maintain that their methods are as exact and scientific as those of the pure philologists; but whatever view we may take of method, there is no doubt as to the importance of M. Réville's book for all who occupy themselves with the science of religion. In Part i. the author's chief object is to remove from the path of research the obstacles that various *a priori* theories (philosophical and theological) of the origin of religion seem to him to oppose to scientific treatment. He discusses in Part ii. the common elements of the chief religions ("The Myth," "The Symbol and the Rite," "The Sacrifice"—cc. i.-iii.), the relations of "The Priesthood" and "Prophetism" (cc. iv.-v.), the nature of "Religious Authority" and "Theology" (cc. vi.-vii.), and finally the mutual influence of religion on the one hand, and philosophy, morality, art, civilisation and science on the other (cc. viii.-xii.). Religion is, for the author, the attempt of the human mind to arrive at a synthesis including itself and the *non-ego* regarded as in its nature "spiritual," and as "mysterious". Hence, however much religion may influence and be influenced by morality, the two never become identical; it differs at the same time from philosophy in being of emotional, not intellectual, origin. Beginning as a rude attempt at a synthesis of man and nature, springing from an emotional need, it had at first for its essential element sacrifice, by which union with the divinity was to be realised; in its final form it is the aspiration towards a complete ideal.

The Wish to Believe. A Discussion concerning the Temper of Mind in which a Reasonable Man should undertake Religious Inquiry. By WILFRID WARD. London: Kegan Paul, Trench, 1885. Pp. 225.

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In these dialogues a theory which the author thinks will appear at first somewhat paradoxical, is expounded and defended by "Father Walton," one of two Catholic spokesmen who may be supposed to represent his views. This theory is briefly as follows: There are three attitudes of mind in religious inquiry—the "superstitious attitude" of those who believe too lightly, the "law-court attitude" and the "religious attitude". The superstitious man has not really "the wish to believe" but only the wish to indulge himself with imagining that some opinion which he would like to be true may be really true; he has no desire to submit his belief to the test of objective verification. The perfectly impartial man to whose emotions a religion makes no appeal is as much disqualified for religious inquiry as the superstitious man, but for a different reason. No one can bring all his critical power to bear on the evidence of the truth of any statement who has not either a strong practical or speculative interest in the result of the investigation. The scientific man, for example, who thinks he has discovered some new truth and has a strong desire that his opinion may turn out right, just for that reason examines the evidence with greater care; similarly, when an event is felt to be of great practical importance, men "dare not lightly believe what they so much wish to be true". The proper attitude of mind for undertaking religious inquiry is therefore that of the "religious-minded man" who feels that a true belief is of practical importance to him, and who is attracted emotionally by a system that presents itself as capable of harmonising the whole of his life. "Darlington," the agnostic of the dialogues, is led to see the force of these considerations, and, although not brought to the Catholic position, does not contest the application that is intended to be made of them to the proof of this position.

Comparative Physiology and Psychology. A Discussion of the Evolution and Relations of the Mind and Body of Man and Animals. By S. V. Clevenger, M.D., Special Pathologist, County Insane Asylum, Chicago, &c. Chicago: Jansen, M'Clurg, 1885. Pp. 247.

The present work consists of expositions of ideas already put forth in medical and scientific journals, and is preliminary to a work dealing more minutely with the psychology of man. The author has in view the scientific treatment of insanity. He writes entirely from the physiological point of view and does not perceive its limitations; but if allowance be made for this, much will be found in his book that has value. The leading ideas have already appeared in biological speculation, but seem to be quite original so far as the author is concerned. He takes "hunger" to be the fundamental mode of feeling: this feeling is the subjective side of chemical affinity; when unsatisfied it is pain, when satisfied pleasure; all activity of organisms is (directly or indirectly) due to desire of food or is overflow of energy after food has been taken; reproduction is at first merely a form of nutrition and must be explained all along by reference to nutritive processes. The author's psychology is worked out with much consistency from this starting-point, and he is able to make many good observations incidentally. The evolution of life he views as determined entirely from outside; but more use is made of the idea of "impacts," "stresses" and "strains" on the organism than of the idea of survival of the fittest. This is an indication of a partial return, such as may be perceived in other recent biological writing, to Lamarckian modes of thought. An interesting suggestion that some anatomical peculiarities which are at present disadvantageous to man are due to his imperfect adaptation to the upright position, is partly worked out in c. 3.

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The Literary Remains of the late HENRY JAMES. Edited with an Introduction by WILLIAM JAMES. Boston: Osgood, 1885. Pp. 471.

Prof. W. James has here added to the published works of his father, who died two years ago—(1) an autobiographic fragment written, as of and by another person, under the title "Immortal Life" (pp. 132-91); (2) "Spiritual Creation, and the necessary Implication of Nature in it: An Essay towards ascertaining the *rôle* of Evil in Divine Housekeeping," also unfinished (pp. 195-418). He further reprints (3) "Some Personal Recollections of Carlyle" (pp. 421-68), a very notable piece that appeared as a magazine-article on Carlyle's death in 1881; and, besides a "Bibliography," gives in an "Introduction" (pp. 7-119) a view of his father's main ideas, illustrated by a connected series of extracts from the previous works in which the ardent mystic had again and again struggled to find utterance for them. There is astonishing power of expression in many of these, and the thought is weighty with philosophical implications which the editor has brought out with great skill.

The Religious Aspect of Philosophy. A Critique of the Bases of Conduct and of Faith. By JOSIAH ROYCE, Ph.D., Instructor in Philosophy in Harvard College. Boston: Houghton, Mifflin, 1885. Pp. xix., 484.

Dr. Royce, who in Nos. XXIII. and XXV. gave the readers of MIND specimens of his philosophical style, marks out here the basis of a system of philosophy, while applying its principles to religious problems which first drove him to speculative inquiry. The book appeals, in different parts of it, both to the general reader and to the special student, and is written throughout with a very notable freshness and vigour. It is reserved for more detailed notice later on. The author's general attitude is indicated in the following sentences:—"While on the one hand he desires to trouble nobody with fruitless and blank negations, and while his aim is therefore on the whole a positive aim, yet on the other hand, as he has no present connexion with any visible religious body, and no sort of desire for any such connexion, he cannot be expected to write an apology for a popular creed. . . . As to the relation of this book to what is called modern doubt, it is a relation neither of blind obedience nor of unsympathetic rejection. The doctrine of philosophic idealism here propounded is not what in these days is popularly called Agnosticism. Yet doubting everything is once for all a necessary element in the organism of philosophic reflection. What is here dwelt upon over and over again is, however, the consideration that the doubts of our time are not to be apologetically 'refuted' in the old-fashioned sense, but that taken just as they are, fully and cordially received, they are upon analysis found to contain and imply a positive and important religious creed, bearing both upon conduct and upon reality".

Le nouveau Spiritualisme. Par E. VACHEROT, Membre de l'Institut. Paris: Hachette, 1884. Pp. xv., 400.

The problem of philosophy is still, for M. Vacherot, the ontological problem which Kant excluded from the field of speculative reason as insoluble. In Part i. (pp. 1-148) he gives a historical sketch of the attempts that have been made since Kant to solve this problem. The theoretical discussion follows in Part ii. (pp. 149-334). In the concluding Part (pp. 335-400) the ideas of "fatal" and of "final" evolution are combined into one doctrine from the point of view there attained. "The school of speculation" (Fichte, Schelling, Hegel) tried to solve the problem of the noumenon by the dialectical method; "the school of reason" (the Eclectics) and "the school of tradition" by the assumption of principles

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from theology and common sense; but it is not to be rightly solved except by "the school of consciousness". "The new spiritualism" differs from the older spiritualism of the Eclectics in taking up into itself the results of science and in rejecting Cousin's doctrine of "the impersonal reason," which, as M. Vacherot points out, was merely common sense placed as an authority over science and philosophy. That which is common to the new and the old spiritualism as distinguished both from materialism and idealism is the "psychological method". Idealism and materialism, in their search for real causes, arrive at principles that have similar defects: materialism tries to explain things by their simplest elements; idealism by the last results of abstraction. The philosophers who have come nearest to the true solution are Aristotle and Leibniz: Aristotle in the doctrine that reality is to be sought not in the bare abstract possibility of "matter" but in the concrete "act" which expresses itself in consciousness; Leibniz in the doctrine that the inner nature of things consists in determination by final and not by mechanical causes. Modern science has reduced matter to force, and as seen from within, that is, from the point of view of consciousness, which reveals to us the nature of all reality in revealing to us our own nature, force becomes a free cause seeking an end; matter therefore is to be explained as "the *minimum* of spirit," not spirit as "the *maximum* of matter". In order to get rid of the artificiality of the systems of Leibniz and Aristotle, we must add to these conceptions Spinoza's conception of unity. But the doctrine of "divine immanence" thus arrived at is to be discriminated from Spinoza's pantheism as well as from the doctrine of "divine transcendence"; God creates other free beings from which, as from the world, he is "distinct" but not "separate". The author takes occasion to explain more fully a part of his doctrine that has sometimes been misunderstood and that he admits to be open to objection at least as regards the form. Rejecting all the pretended demonstrations that perfection implies existence, he holds on the contrary that perfection—conformity to an ideal—is incompatible with real existence; it is the conception of infinity, the opposite of that of perfection, which implies reality: the world is infinite, God is the supreme ideal. He now explains that the idea of God is not to be confounded with the abstract idea of perfection, which is merely the conception of something perfect in its kind. The idea of the absolute—the true idea of God—implying the maximum of reality cannot be submitted to the limitations of any conception of the perfect (in the category of quality) any more than it can be identified with the conception of the immeasurable (in the category of quantity). The essential constituents of our idea of the absolute are the "free causation" and "finality" which we find in ourselves; these in the absolute become "creative power" and "providence". The process which to science, looking at it from outside, is "fatal evolution," seen from within, from the point of view of consciousness, is a "final evolution" towards the ideal good.

Leçons de Philosophie. Par ÉLIE RABIER, Professeur de Philosophie au Lycée Charlemagne, Membre du Conseil supérieur de l'Instruction publique. I. *Psychologie.* Paris: Hachette, 1884. Pp. 676.

This is a book in which may be studied to great advantage the effect of later scientific work upon an open-minded representative of the traditional spiritualism of the French school. By Philosophy he understands, in combination, "the psychological" and the "metaphysical sciences" which remain after the widest enumeration of the objective sciences ("cosmological" or natural and "zoological" or moral); and, contending, according to the later French tradition, for the priority of psychological over ontological

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consideration in the philosophical field, he works out the doctrine of Psychology in his present first volume. With Psychology itself, Logic and Ethic are classed as the specially "psychological sciences," and we are left to suppose that in the author's scheme of publication these two "regulative" doctrines will follow next, before he passes to Metaphysic proper (disposed in the old threefold fashion of Rational Cosmology, Psychology and Theology); no account, apparently, being taken of the right of Æsthetic to rank on a level with Logic and Ethic. The "Psychology," filling all but 20 introductory pp. in the volume, is set out in five books of "General Problems," "Intelligence," "Sensibility," "Will," "Special Problems". Of these "Intelligence" (with Sense in its representative aspect) occupies considerably more than half the whole volume; included as there is, in the treatment of the "properly intellectual functions" of elaborative thought, all that kind of discussion as to fundamental principles which it is now more usual, and surely more satisfactory, to relegate from Psychology to philosophical 'Theory of Knowledge'. Here, however, as elsewhere, while standing in the main by the accepted (or, as they have been called, official) tenets of the French school, the author shows no little receptiveness to the ideas of opposed thinkers, especially English, or at least is always prepared with a reasoned judgment on their counter positions. The result is a work full of instruction, disposed with good method. The books on Feeling and Will, as they are more perfunctory, are also of less scientific value. Under "General Problems" (pp. 21-88) falls, besides the question of psychological method, the discussion of the notion of Consciousness. "Special Problems" (pp. 571-672) include the topics of Habit, Language, Beauty and Art (by way of Æsthetic, otherwise shelved), Sleep, &c., Mind in Animals.

Études familières de Psychologie et de Morale. Par FRANCISQUE BOUILLIER, Membre de l'Institut. Paris: Hachette, 1884. Pp. iii., 315.

Five studies, popular in style but containing many interesting psychological observations. The general results of the first three are—that since dreams take their character in part from past thoughts and actions there is a kind of "moral responsibility in dreams," hence an effort to remember dreams on waking may be useful as a means of moral culture (i.); that "the sentiments of the living with regard to the dead" including the "involuntary admiration for suicide" may all be traced to love of life (ii.); that sympathy decreases with distance in time and space and is therefore favoured by increased facility of communication, but has always existed in man and as an emotion remains constant (iii.). An interesting feature of the fourth study ("The Compensations in Human Life") is the account of three optimistic moralists, Robinet (praised by Hegel in his *History of Philosophy*), Antoine de la Salle and Azaïs, the second of whom would seem to have been undeservedly neglected by historians. In the last study ("On Time in Common Speech") expressions in which time is personified and illusions of time are discussed.

Études psychologiques. Par IVAN SETCHÉNOFF. Traduites du Russe par VICTOR DERÉLY. Avec une Introduction de M. G. WYROUBOFF. Paris: Reinwald, 1884. Pp. xv., 274.

This translation of the work of a Russian psychologist is introduced to French readers by M. Wyrouboff as a consistent attempt to treat psychology in what he regards as the only scientific way, that is, as "cerebral physiology". The author begins by a study of muscular movements, voluntary and involuntary. Having reduced all movement to reflex

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action modified by the influence of 'inhibitory' and 'augmenting' centres, he applies this result of his analysis of the "known" terms of mental processes (that is, those that are known on their objective side) to the "unknown" terms (that is, the conscious part of the process). He finds that consciousness as well as movement can be reduced to the type of reflex action. The two chapters on "The Reflex Actions of the Brain" (Pt. i.) are followed by three containing "General Notions on the Study of Psychology" (Pt. ii.): of these the first two deal with the question of method; the third is a sketch of the "History of Psychical Evolution" (in the individual). The criticism on his work is made to some extent by the author himself when he admits that there are many "lacunæ" in his system, and that it is in great part hypothetical; this criticism is carried further by M. Wyrouboff. Although it is applied to the results only and not to the method, the author's admission that the "cerebral physiologist" must seek his facts in subjective psychology may be taken as a concession on this point also.

Les Maladies de la Personnalité. Par TH. RIBOT, Directeur de la *Revue Philosophique.* Paris: F. Alcan, 1885. Pp. 174.

M. Ribot here continues his studies in mental pathology with the aim of throwing light on normal psychological processes. From Memory and Will as thus treated before (see MIND XXIV., 590-2, XXXIII., 141-4), he now passes to the central problem of the consciousness of Personality; stating the psychological question in an Introduction (pp. 1-21); following his pathological inquiry through four chapters—"Organic Disturbances," "Emotional Disturbances," "Intellectual Disturbances," "Dissolution of Personality"; and summing up results in a Conclusion (pp. 151-71). Critical Notice will follow.

Les Arguments de Zénon d'Elée contre le Mouvement. Par CHARLES DUNAN, Docteur ès Lettres, Professeur de Philosophie au Collége Stanislas. Paris: F. Alcan, 1884. Pp. 44.

After pointing out the historical importance of Zeno, the author discusses his four arguments against motion as given by Aristotle, taking them in an order which is the reverse of Aristotle's, under the designations of "the Stadium," "the Arrow," "Achilles" and "Dichotomy". The first he dismisses briefly as being of no value. He gives some space to the refutation of "the Arrow" and "Achilles"; the exact meaning of the text of Aristotle, the explanations of the commentators and the views of others who have attempted a refutation of these arguments or have regarded them as irrefutable being also discussed. By the argument of "Dichotomy" (which he states as follows, partly translating from Aristotle and partly giving his own interpretation:—"There is no motion, because the moving body must pass over the half of its course before reaching the end," and similarly if we divide the first half of the whole space, and the half of this, and so on continually), he holds that Zeno really proved the impossibility of motion as a thing-in-itself. The arguments of "Achilles" and "the Arrow" are intended to show that, the existence of motion as representation and of time and space as real things being respectively granted, motion still cannot be rationally conceived; but they do not prove this. Motion as a phenomenon is not in contradiction with itself; the difficulty begins when we consider it as a noumenon. It was in the Kantian criticism that the problem of "Dichotomy" first found its solution, *viz.*, that motion, being simply a representation given in the forms of space and time, cannot be treated as absolute.

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Histoire des Sciences et des Savants depuis deux Siècles, précédée et suivie d'autres Études sur des Sujets scientifiques, en particulier sur l'Hérédité et la Sélection dans l'Espèce humaine. Par ALPHONSE DE CANDOLLE, Associé étranger de l'Académie des Sciences de Paris, &c. Deuxième Edition considérablement augmentée. Genève-Bâle: Georg, 1885. Pp. xvi., 594.

This new edition of the *Histoire des Sciences et des Savants*, appearing after an interval of twelve years from the publication of the first, is not only augmented but entirely rearranged. An introduction written in advocacy of the doctrine of natural selection is now suppressed as being no longer necessary. Instead of this the chapters on Observation and on the Statistical Method have been collected and placed at the beginning of the book. All other alterations consist in additions. Of these the most important is Ch. iv., Section 2,—"New Researches on Heredity" (pp. 54-103). The author points out a difference between his choice of material for these researches and Mr. Galton's in *English Men of Science:* he has selected not eminent men but the persons he has known best, without any reference to their merit or capacity. He starts with a scheme of classification of physical, intellectual and moral characteristics in which a name is given to each virtue and defect; all "average characters" and "acquired characters" being eliminated as of no value for determining the special influence of heredity. The characters of any individual and those of other members of his family (ancestors and collateral relations) being known, the percentage of characters inherited and of variations may be estimated: with more material, statistical grounds for attributing characters to atavism might be given; but such attribution at present remains conjectural. By this method the author holds that the existence of heredity of special characters (as distinguished from common racial characters) is established, and even that an estimate may be made by its aid of the numerical proportion of the characters inherited from each parent. He has applied it to members of his own family (three generations) and to 31 other persons belonging to 16 different families (two generations). In a later part of the book he makes use of it to draw a comparison between his father (A.-P. de Candolle) and three other eminent naturalists, Cuvier, Linnæus and Darwin. He finds that in the case of De Candolle and Cuvier their extraordinary memory was a variation; the power of generalisation seems to have been a variation in every case: there is always, however, the possibility of atavism. All the author's researches, these later ones as well as the earlier ones, have been carried out not so much with a view to determining the origin of individual characters of men of science as with a view to determining the influence of the social conditions of different countries; and this he takes to be the essential distinction of his aim from Mr. Galton's. For this purpose, though not for determining as accurately as possible the relative influence of "nature" and "nurture," he believes his own earlier method (carried out further in the present edition), of making statistical tables of the nominations of foreign members of learned societies during as long a period as possible, to be the best. The general result of his earlier and later researches is to show that scientific success is the result of a combination of intellectual and moral qualities obtained by inheritance and variation, together with favourable external circumstances (education, example, influence of the social environment), rather than of a special faculty. He is not disposed to attach much importance to those innate tastes for a special branch of science on which many of Mr. Galton's correspondents insist. At the same time the facts seem to him to prove that there is usually in men of science a hereditary bias either to the mathematical and physical or to the natural history sciences; partial

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heredity of a special faculty is also found to exist in the case of mathematics as of music. For success in the arts and in active life heredity is more important than the influences that follow; for success in a scientific career the influences that follow are the more important (p. 530). The inheritance of a complex civilisation seems to be of more importance for the successful cultivation of the moral sciences than of the physical and natural history sciences; small countries have not the advantage in moral science that they seem to have in natural science. Several new paragraphs are added relating to the influence of instruction on originality. Taking Mr. Galton's researches as his evidence, the author finds that men of science have got more advantage from freedom and leisure than from systematic instruction, and that "diversity of schools," such as exists in England, is favourable to originality. He discusses the influence of the diffused interest in science which results from the action of "nomad societies": this he thinks on the whole good. "The slow and costly actions of governments are not worth the zealous and disinterested impulse of the public." Above all things a social atmosphere favourable to scientific studies is required in order that progress may be made.

La Dottrina Kantiana dell' A Priori. Studio critico del Dott. GIOVANNI CESCA, Prof. di Filosofia nel R. Liceo di Acireale. Verona, Padova: Drucker e Tedeschi, 1885. Pp. 279.

L'Origine del Principio di Causalità. By the Same. Same Publishers, 1885. Pp. 67.

After discussing the chief positions of the *Kritik* and the arguments of Kantians and their opponents, the author, in the first of these works, concludes that the only real "*a priori* form" is the synthetic unity of apperception; this is found in the process of "integration and differentiation of states of consciousness" by which each state is "associated instantaneously and automatically with its class, order and variety". The forms of intuition are *a priori* for the individual but not for the race; relations between states of consciousness are not imposed by the mind on material given in sensibility, but are derived from real relations between objects; there is no absolute opposition between sensibility and intellect, and therefore no need for a third faculty of imagination to mediate between them. The question of the *a priori* or *a posteriori* character of form was treated by Kant entirely as one of logic; his neglect of psychology prevented him from solving the question of origin which comes before that of validity. There are no synthetic judgments *a priori*; mathematical axioms have their origin in experience, as is shown both otherwise and by the possibility of non-Euclidian geometry.

The author follows up his discussion of the Kantian doctrine generally by a special study of the principle of causality. He finds in this principle three elements, (1) instinctive tendency, (2) notion of cause, (3) application of this notion to phenomena, and assigns to each of the three schools that have tried to solve the problem of causation the merit of having brought out one of these elements clearly. The notion of cause itself was correctly explained by the Scottish school as derived from the relation of will to movement; the application to phenomena was seen by the English experiential school to be immediately suggested by experiences of succession; while the *a priori* school was able to prove the presence of the element of instinctive tendency. This element, however, is not strictly *a priori*, but is derived from primitive anthropomorphism. The validity of the law of causation is proved by the impossibility of explaining the course of nature without it: the fact of change proves that it is objectively valid, that there is something in the matter of phenomena corresponding to our experience

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of activity; for if the causal nexus were simply a form imposed by the subject, we should explain by means of it all relations between phenomena, not merely those of succession.

Genesi della Filosofia morale contemporanea. Per GIACINTO FONTANA. Milano: Fratelli Dumolard, 1885. Pp. 222.

Experiential ethics, even as "ennobled by Fouillée and Spencer, the contemporary representatives of the positive school," does not answer to the true conception of morality (cc. i., ii.). The ethics of German transcendentalism, which substitutes for the "objective" conception of morals one which is "subjective and purely rational," leads to consequences similar to those that flow from "positivism"; for the result of the development from Kant to Hegel as well as to Schopenhauer and Hartmann is (like the result of the "positive doctrines") monism and the denial of free-will (cc. iii., iv.). It is in Spinoza, whose thought was the outcome of all the scientific tendencies of the period before him, and whose presence is felt at every point in the development of later philosophy, that the origin of modern ethics finds its logical explanation (c. v.). The only means of escape from the fatal "practical consequences of contemporary moral systems" is a return to dualism and indeterminism (c. vi.).

Physiologie des Rechts. Von Dr. S. STRICKER, Professor an der Universität in Wien. Wien: Toeplitz & Deuticke, 1884. Pp. x., 144.

After treating psychology from the physiological point of view in previous works already noticed in MIND, Professor Stricker now goes on to investigate legal conceptions on the basis of results already gained. These results are summarised by him in Part i. (pp. 1-59, "Die Vernunft und das Gefühl"); his theory of law and its origin is developed in Part ii. (pp. 60-116, "Recht und Gesetz"); in Part iii. (pp. 117-144, "Strafe und Entschuldigung") it is made the foundation of a theory of punishment with special reference to "moral insanity". Here, as he himself points out, he returns to his own subject of pathology, from which he may have seemed to hold himself aloof in his psychological studies. The parts of his general theory that should be called to mind in relation to his treatment of law are that his physiological doctrine is on its psychological side a theory of association and that in his explanations of details he lays stress on "internal experience" (*i.e.*, experience of activity). He maintains that the idea of "right" which is the basis of law has its origin (both in the individual and the race) in the feeling of power given in experience of muscular activity and in the feeling of restraint of this power by the power of others; sympathy has some influence in promoting its development: on the intellectual side it has its origin in agreements or contracts (Verträge). Ideas derived from past experience of contracts, like all other ideas, have a certain normal mode of association. When this is disturbed there is a sense of wrong. "Moral insanity" is distinguished from actual criminality by the absence (in the morally insane) of a persistent plan of life carried out in opposition to the laws; this difference justifies a different view of punishment in relation to ordinary criminals and to the morally insane. The author refers to Hume as having discussed before him the question whether the sense of justice has its origin in reason or in feeling, and as having arrived at analogous conclusions. His own investigations of morality and law, however, were not suggested by Hume but by Darwin.

Grundlagen einer Erkenntnisstheorie. Von Dr. RICHARD VON SCHUBERT-SOLDERN. Privat-Docent an der Universität Leipzig. Leipzig: Fues (R. Reisland), 1884. Pp. 349.

In theory of knowledge the author sees the means of transforming

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philosophy from "art"—the art of supplying defects of proved certainty by imagination—into science. He discusses, in six sections, "Problem of Transcendent Knowledge," "Concept and Thing," "The Conception of Truth and Logic," "Causality," "Space and Time," "Perception and Representation". All doctrines of a "transcendent object" are to be rejected. An important part in the explanation of belief in such an object outside consciousness is assigned to the fact that we become aware of the existence in other minds of objects resembling those in our own mind. The unity of the mind may be expressed in two ways, either as "the abstract *ego*" or "the concrete *ego*": the concrete *ego* is the organic feeling (Gemeingefühl) to which all particular feelings are related at any moment; the abstract *ego* is merely the expression of the fact that each feeling or reproduction of a feeling can be brought into relation with all the rest. Besides the point of view of the theory of knowledge there are two others (subordinate to it) from which the world may be regarded; that of psychology and that of natural science. Natural science deals with the world as perception (Wahrnehmung), psychology with the world as representation (Vorstellung). Perception cannot be treated as a perfectly independent thing any more than representation; as representation presupposes immediate experience, so perception presupposes reproduction of experience; without memory no form of experience is possible. In conclusion the author expresses the conviction that there can be no definitive theory of knowledge; any true theory of knowledge must advance along with the special sciences.

Literarische Fehden im vierten Jahrhundert vor Christus. Von GUSTAV TEICHMÜLLER, ordentlichem Professor der Philosophie in Dorpat. I. Chronologie der Platonischen Dialoge der ersten Periode. Plato antwortet in den "Gesetzen" auf die Angriffe des Aristoteles. Der Panathenaikus des Isokrates. II. Zu Platon's Schriften, Leben und Lehre. Die Dialoge des Simon. Breslau: Koebner, 1881, 1884. Pp. xv., 310; xviii., 390.

The centre of interest in these volumes is the author's discussion of the Platonic Dialogues in the light of his new view of Plato's doctrine and his new critical method. This method,—which gives its title to the book,—consists in investigation of the "literary quarrels" of Plato and his contemporaries as a means of fixing more accurately the chronology of the Dialogues. In the author's view, it has been too much the habit of former critics to regard each Dialogue as an artistic whole composed without reference to the circumstances of the time and without any external incitement. The presence of Socrates in the Dialogues has, besides, caused them to be interpreted as if they belonged to the fifth century. In reality we have to do always with Plato and his contemporaries; and we must remember that Plato was not primarily an artist but a philosopher, and a philosopher who aimed at having practical influence on his age. It is therefore likely that the Dialogues often had their immediate cause in literary works of the time expressing doctrines opposed to Plato's, or even written as attacks on him. Among his literary rivals were, for example, Antisthenes with his circle (Euthydemus, Lysias) and Isocrates. Comparison of other writings of the period with those of Plato from this point of view, accompanied by study of contemporary events as causes that might determine the composition of particular Dialogues, is an instrument of research that has hitherto been neglected. Those who employ this method will note all indications of Plato's personal life in the Dialogues, and will treat the literature of Anecdotes and Epistles in a not too sceptical spirit. Besides having a true conception of method, the student of Plato must have a conception of his

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doctrine as a whole, and a point of view of his own from which to criticise as well as interpret it. In Mr. Benn's *Greek Philosophers*, Prof. Teichmüller sees evidence that others have independently come to take the broader historical view of Plato which he advocates. He replies incidentally (in vol. ii.) to Mr. Benn's arguments against his explanation of the doctrine of the immortality of the soul as taught in the *Phaedo*. Consistently with his "pantheistic interpretation of Plato," he still holds that the doctrine of personal immortality had for Plato only the value of those myths whose meaning he approved of: in Plato himself immortality means permanence of the intelligible element of the soul; and he does not admit the transcendent isolation of this any more than of the sensible element. The central doctrine of Plato's whole system is that of μεθέξις, union of being with becoming; being, or the ideal element, cannot exist apart from the flux of things: the older critics have not seen that this is implied in what is commonly taught as to Plato's combination of the doctrine of the Eleatics with that of Heraclitus. The author applies his new method to fixing the chronology of Aristotle as well as of Plato. He claims to have shown that in the *Laws* Plato replied to Aristotle's criticisms in the *Nicomachean Ethics;* that indeed passages from Aristotle are actually quoted in the *Laws*. As the *Theætetus* is a fixed point for determining the chronology of Plato, so the *Laws* will become a fixed point for determining the chronology of Aristotle.

Geschichte des gelehrten Unterrichts auf den deutschen Schulen und Universitäten vom Ausgang des Mittelalters bis zur Gegenwart. Mit besonderer Rücksicht auf den klassischen Unterricht. Von Dr. FRIEDRICH PAULSEN, a. o. Professor an der Universität zu Berlin. Leipzig: Veit, 1885. Pp. xvi., 811.

The parts of Raumer's *Pædagogik* and of the *Encyclopædia* of Schmid which deal historically with learned education in Germany being incomplete, especially as regards the Universities, Dr. Paulsen, well-known by his work on the historical development of Kant's theory of knowledge (1875), has devoted himself to filling up the blank that was thus left in literature. The present work is divided into three Books dealing respectively with the shaping of learned instruction under the influence of "the first humanism" and the Reformation (1500-1600); the changes during the period of Rationalism and Pietism (1600-1805); and lastly, "the time of the new humanism". In Bk. i., c. 1., a brief sketch is given of education in the Middle Ages. The author's own view as regards the future—important as coming from so distinguished a member of the Berlin philosophical faculty—is that the classical training given in the Gymnasia must be very much restricted. The power of reading Latin will always remain essential; but classical education in the older sense will become a specialty of philologists. Not mathematics and natural science, but German (with other modern languages) and philosophy, are to replace it. Modern culture, although having its origin and its basis in ancient culture, first as continued in the Middle Ages by the Church, afterwards as rediscovered in its earlier and typical form by the Renaissance, has now become an independent culture, itself capable of affording all the materials for a complete education. As a means of bringing about the changes he desires Dr. Paulsen does not propose new examinations, but rather the suppression of some of the present ones. He thinks it unfortunate, however, that no preliminary philosophical instruction should be given in the Gymnasium: for at present, through its postponement to the University, those who do not make a specialty of philosophy hardly come in contact with it at all; the specialisation of "the philosophical faculty" (the old "faculty of arts"),

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of which philosophy, properly so called, is only a branch co-ordinate with the natural sciences, philology, &c., being now complete. This change in the position of philosophy, no longer obligatory even on non-professional students at the University, and yet absent from the Gymnasium,—a change which was not completely effected till the present century (the Renaissance having left philosophical instruction almost where it was in the Middle Ages),—is explained by the author as due in part to the less fitness of modern philosophy as compared with the scholastic philosophy for being taught by text-books, and to its division (since Kant) into schools. His own opinion, however, is that the difficulties in the way of making philosophical training a part of all high education can be surmounted.

Kant's Dinge-an-sich und sein Erfahrungsbegriff. Eine Untersuchung von M. W. Drobisch. Hamburg and Leipzig: Leopold Voss, 1885. Pp. v., 53.

Kant's intention in his doctrine of things-in-themselves was to make his theory of knowledge independent of the question as to their reality. The conception of the thing-in-itself is a limiting conception, not an affirmation of the real existence of a noumenal world. The application in the theoretical philosophy of the category of causality to things-in-themselves is to be explained by the distinction between thinking (Denken) and knowing (Erkennen); the thing-in-itself is "thought," but not "known," as a cause. Through his mode of affirming this limiting conception, Kant, in his doctrine of experience, came very near "subjective idealism"—the derivation of the matter as well as the form of knowledge from an activity of the subject. The author contends that, for the categories to be applied to experience at all, not only the "matter" but "the determinate form of objects of experience" must already be "given". In restoring the "realistic" element which Kant tended (in consequence of his mode of statement) to suppress, he trusts that, although "an old Herbartian," he is not interpreting Kant from an external point of view, but correcting his doctrine in the sense in which he himself would have desired to correct it.

Das Endergebniss der Schopenhauer'schen Philosophie in seiner Uebereinstimmung mit einer der ältesten Religionen dargestellt. Von Dr. David Asher. Leipzig: Arnoldische Buchhandlung, 1885. Pp. 100.

The author is already known as an enthusiastic advocate of Schopenhauer's philosophy, who, however, declines to accept pessimism as a deduction from the doctrine of Will. He here puts forth an idea which he had arrived at thirty years since but has not hitherto published, *viz.*, that the central doctrine of Judaism in its earliest form,—which he takes to be that of the Pentateuch,—is identical with Schopenhauer's doctrine of "the will to live"; the God of Moses being essentially the principle of life, and being always conceived as a will. It is shown how the idea of life as the essence of things was developed by the Jewish philosophers of the Middle Ages, and especially by Avicebron in the celebrated *Fons Vitæ*. In dealing with the ethical applications of this idea, Dr. Asher recapitulates the proofs that not only in the Mosaic books, but in the other books of the Bible, and also in the Rabbinical writings, length and fulness of life are represented as the reward of good action: by "life" being meant life on earth, since neither the Pentateuch nor any book of the Old Testament teaches the doctrine of immortality. Although a Jew by race, the author is not himself an adherent of orthodox Judaism, and his work is addressed only to those who have rejected Jewish and Christian theology. One object of his book is to protest against Schopenhauer's antipathy to Judaism, which he ascribes, with Schopenhauer himself, to its optimistic character. Dr. Asher

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would reconcile religion and philosophy by not admitting a permanent distinction between philosophy and religion in any sense; we are to look forward to a time when action proceeding from a reasoned view of things will be possible for all and not merely for philosophers. His view is essentially that of "evolutionist ethics"—that life is in itself good, and that life and increase of life should be made the end of effort both for the individual and the community.

Die Sprache als Kunst. Von GUSTAV GERBER. Zweite Auflage, Erste—Fünfte Lieferungen. Berlin: Gaertner, 1884, 5. Pp. 561.

Die Sprache und das Erkennen. Von GUSTAV GERBER. Berlin: Gaertner, 1884. Pp. 336.

The second of these works carries farther the general view of speech that was given in the earlier one, half of which has now reappeared in a second edition issued by parts. Speech as a product of "naïve art" by which ideas of objects are conveyed from one mind to another, is distinguished from "natural sounds," that is, mere signs of emotion, such as are used by animals. Words, however, taking their character in part from the feelings of those who create them, do not reproduce actual things, but transform the real world into an ideal world. Having once been created by the free activity of individuals, speech reacts on the individual through the race, and becomes knowledge—a knowledge which is common to all. The sentence (Der Satz), not in its grammatical form but in its form as root (Sprachwurzel), is the first product of the creative activity of man expressing itself in speech. Here knowledge is already implied; man has placed himself in a "theoretical" relation to objects. Speech itself gives the impulse to strive after a more exact knowledge of the world as it is, to make the sentence—the element of speech—a judgment expressing the truth of things. From first to last the character of speech as art is stamped on our knowledge. "It is speech that manifests the essence of man in relation to the universe." The general result of the author's criticism of knowledge from this point of view is that the categories of knowledge for the speech of the individual are the representation (1) of the empirical *ego*, (2) of movement in time and space, (3) of the relation of cause and effect; expressed in (1) the subject, (2) the predicate, (3) the copula. These categories are to be taken in the sense of Kant rather than of Aristotle; for although Aristotle's as well as Kant's deduction of the categories has its roots in speech, Aristotle's deduction was from isolated words, while Kant's was from the judgment as expressed in the sentence. From the deduction of the categories (cc. i.-iv.) the author goes on to consider speech as a social product (c. v.). Having so far treated it as a product of the activity of the individual and the race under the influence of external things, he next proceeds to consider it as at the same time a product of the activity of the subject passing outwards (c. vi.). Kant's distinction between *Wahrnehmungsurtheile* and *Erfahrungsurtheile* then leads to a closer consideration of the copula in the two kinds of judgment (c. vii.). Finally a summary of results is given and doctrines of the *ego*, especially those of Kant, Fichte and Schopenhauer, are discussed in the light of the author's view (c. viii.).

Ueber tragische Schuld und Sühne. Ein Beitrag zur Geschichte der Æsthetik des Dramas. Von Dr. JULIUS GOEBEL. Berlin: Duncker (C. Heymons), 1884. Pp. 108.

The true conception of "tragic guilt" is not to be found in the Greek drama, but first appeared in Shakespeare; although we must not expect to find it so consciously present to the mind of "the naïve Homer of the modern drama" as to the mind of "the philosopher of the nineteenth century". The ancient dramatists never got rid of the idea of an inexplicable

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fate; but in order that there should be real individual guilt the hero of the drama must be conceived as possessed of free-will and as trying to affirm his own personality against the moral order of the world. The conception of tragic guilt is therefore not, strictly speaking, Teutonic, for the idea of an inexplicable fate is present in the earliest German as well as Greek legends; it is rather a Christian conception. The author traces its gradual appearance first in the "speculative æsthetic" of Solger, Hegel, Vischer, &c., the results being confirmed by "die empirische Shakespeare-forschung"; then in the classical writers of Germany (Lessing, the "Sturm und Drang" period, Herder, Goethe and Schiller); finally he criticises in an appendix the æsthetic doctrines of Schopenhauer and his more recent disciples.

Ueber das Gedächtnis. Untersuchungen zur experimentellen Psychologie. Von HERM. EBBINGHAUS, Privatdocenten der Philosophie an der Universität Berlin. Leipzig: Duncker & Humblot, 1885. Pp. ix., 169.

These researches carry forward to the investigation of Memory the method of experiment and exact measurement that has already yielded results in the psychology of sensation and in the determination of the time taken up by mental processes. Critical Notice will follow.

Grundriss der Psychologie. Von Dr. GUSTAV GLOGAU, o. ö. Professor an der Universität zu Kiel. Breslau: Koebner, 1884. Pp. vi., 235.

This volume grew out of a wish of the author's students for a comprehensive *Dictat* of his lectures, but it aims also at interesting a wider class of readers. Critical Notice will follow.

RECEIVED also :—

J. H. Godwin, *Active Principles; or Elements of Moral Science*, Lond., Jas. Clarke, pp. xii., 304.

G. Jamieson, *Profound Problems in Theology and Philosophy*, Lond., Simpkin, Marshall, pp. xxix., 629.

J. McCosh, *Development; What it can do and what it cannot do*, Edinb., T. and T. Clark, pp. 50.

H. J. Clarke, *The Fundamental Science*, Lond., Kegan Paul, Trench, pp. xxiv., 265.

Proceedings of the Society for Psychical Research, Pt. vii., Lond., Trübner.

J. S. Reid, *M. Tullii Ciceronis Academica*, Lond., Macmillan, pp. x.. 371.

W. H. Pater, *Marius the Epicurean: his Sensations and Ideas*, 2 vols., Lond., Macmillan, pp. 260, 246.

S. Monckton, *The Metaphysical Aspect of Natural History*, London, H. K. Lewis, pp. 51.

N. Porter, *The Elements of Moral Science, Theoretical and Practical*, London, Sampson, Low, & Co., pp. xxv., 574.

C. E. Lowrey, *The Philosophy of Ralph Cudworth*, New York, Philips, Hunt; Cincinnati, Cranston, Stowe, pp. 212.

F. W. Kelsey, *T. Lucretii Cari De Rerum Natura Libri Sex*, Boston, Allyn, pp. lvii., 385.

G. Sergi, *L'Origine dei Fenomeni psichici e loro Significazione biologica*, Milano, Dumolard, pp. xxv., 454.

M. L. Stern, *Philosophischer u. naturwissenschaftlicher Monismus*, Leipzig, Th. Grieben (L. Fernau), pp. iv., 348.

NOTICE of some of these (received too late) is deferred till next No.

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VII.—NOTES AND CORRESPONDENCE.

SUPPLEMENTARY NOTE ON HALLUCINATIONS.

There is one topic on which I may perhaps be allowed a few words of supplement to my article in the present No., as it has a distinct bearing on the centrifugal origin of hallucinations. There is a class of phenomena, not yet recognised by science, and for which the evidence has never yet been presented with anything like convincing fulness; but which—I do not think it rash to say—will be accepted as genuine by a large number of persons who quite realise the strength of the *a priori* presumption against it, whenever the quantity and quality of the evidence shall be adequately realised. It is at any rate accepted already, by a considerable number of such persons, as having a strong *primâ facie* claim to attention; and this, being a matter of fact and not of opinion, may justify the mention of it here. It is the *telepathic* class—hallucinations of sight, sound or touch, which suggest the presence of an absent person, and which occur simultaneously with some exceptional crisis in that person's life or, most frequently of all, with his death. Visual and auditory phantasms occurring at such moments may be conveniently termed *veridical* hallucinations; for while they are completely delusive as far as the percipient's senses are concerned—while they completely conform to our definition, "sensory percepts which lack the objective basis which they suggest"—they nevertheless have a definite correspondence with certain objective facts, namely, the exceptional condition of the absent person. Such cases, if genuine, militate very strongly against M. Binet's theory that excitation from the external sensory apparatus is a *sine quâ non* of hallucinations. For here the occurrence of the hallucinations depends on the distant event; *that* is what fixes it to occur at a particular time; and it is specially hard to suppose an occurrence thus conditioned to be conditioned *also* by the accidental presence of real phenomena capable of supplying *points de repère*, or on an accidental morbid disturbance of the organ or the nerve. And if the brain be admitted to be the primary physical seat of the phenomena, there are, further, good reasons for supposing that its highest tracts are those first affected, and so that the hallucination is centrifugal. The chief reasons are two. (1) The phantasm is often bodied forth with elements of a more or less fanciful kind—dream-imagery, so to speak, embroidered on a groundwork of fact; and these elements seem clearly to be the percipient's own contribution, and not part of what he receives. (2) Cases occur where actual intercourse between the two persons concerned has long ceased; and where the supersensuous communication can only be supposed to be initiated by the quickening of long-buried memories and of dim tracts of emotional association. The hallucination in these cases would therefore be a complete example of the projection of an idea from within outwards; the sensorium reverberates to a tremor which must start in the inmost *penetralia* of cerebral process.

But I would specially point out that this argument does not extend beyond the limits of the percipient's organism. It involves no physical expression of the fact of the *transmission*. If A is dying at a distance, and B sees his form, it is rarely that one can suppose any psychical event in A's mind to be identical with any psychical event provocative of the hallucination in B's mind. That being so, there will be no simple and immediate concordance of nervous vibration in the two brains; and that being so, there is

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no very obvious means of translating into physical terms the causal connexion between A's experience and B's. The case thus differs from "thought-transference" of the ordinary experimental type, where the image actually present in the one mind is reproduced in the other; where, therefore, a physical concordance does exist, and something of the nature of a "brain-wave" can be conceived. This was quite rightly pointed out in the notice of the *Proceedings of the Society for Psychical Research* which appeared in MIND XXXVI. But it had also been pointed out by Mr. F. W. H. Myers and myself in the "Theory of Apparitions" there criticised. In our *rapprochement* of veridical hallucinations to experimental thought-transference, we are confining ourselves to the *psychical* aspect; we connect the phenomena as being in both cases affections of one mind by another occurring otherwise than through the recognised channels of sense. The objector may urge that if we have not, we ought to have, a *physical* theory which will tembrace all the phenomena; but to this we demur. I venture to suggest that the action of brain on brain is not bound to conform to the simplest type of two tuning-forks; and that a considerable community of experience (especially in emotional relations) between two persons may involve nervous records sufficiently similar to retain for one another some sort of revivable affinity. But, however that may be on the physical plane, the facts of which we have presented and shall continue to present evidence are purely *psychical* facts; and on the psychical plane, we can give to a heterogeneous array of them a certain orderly coherence, and present them as a graduated series of natural phenomena. Will it be asserted that this treatment is illegitimate unless a concurrent physical theory can also be put forward? It is surely allowable to do one thing at a time. There is an unsolved mystery in the background; that we grant and remember; but it need not perpetually oppress us. After all, is there not that standing mystery of the cerebral and mental correlation in the individual—a mystery equally unsolved and perhaps more definitely and radically insoluble—at the background of every fact and doctrine of the recognised psychology? The psychologists work on as if it did not exist, and no one complains of them. May we not claim a similar freedom?

EDMUND GURNEY.

VERTIGO OF DIRECTION.

I venture to submit the following observations as a contribution to determining whether M. Binet's "Vertigo of Direction" as described in MIND XXXVII., 156 (cp. XXXIV., 217) is really a pathological phenomenon, and if so, in what respect.

(1) It should be made quite clear whether the persistent misjudgment of direction has arisen or can have arisen, in the cases relied on, from an error in 'dead reckoning,'[1] *i.e.*, in remembrance or estimation of antecedent changes of position. M. Binet's correspondent shows this to be the cause in all his *cases*, though his *illustration* suggests an error arising without reasonable cause. Mr. Forde's letter (*Nature*, April 17, 1873) is compatible

[1] Cp. Charles Darwin in *Nature*, April 3, 1873. This must, I think, be the article to which M. Binet refers as Prof. Geo. Darwin's. Prof. Geo. Darwin wrote on a kindred subject in *Nature*, May 1, 1873, but did not allude to *persistent* errors of direction. M. Binet's phrase "weakly and aged" must have arisen by translation and retranslation out of Charle Darwin's 'old and feeble'.

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with either view. I could supply from my own experience plenty of instances in which a degree of bewilderment, though less intense than that described in M. Binet's note, has arisen from an error in 'dead reckoning'; but none without such an error, except the curious fancy that a train, when it enters a tunnel, begins to run backwards. Here, I take it, one reasons fallaciously from negation of the antecedent (apparent motion of objects seen through the window) to negation of consequent (motion of train in the direction so indicated). This is more akin to an illusion of sense than M. Binet's cases, but is clearly, I think, inferential.

(2) *If* the cause of contradiction lies in an inference from antecedent circumstances, it should be carefully considered whether the judgment of perception is in error at all, and whether terms are really applicable which indicate a morbid condition of the common activity of perceptive judgment. I mean such terms as "seizure" (Mr. Forde), "accès," "vertige," "saisissement," "illusion," "hallucination". Darwin's suggestion, as I shall point out below, implies something different from all this. No doubt it appears from his remarks and from Mr. Forde's letter that infirmity and fatigue are connected with the persistent mistakes in question; but it is possible that they may act not by derangement of the perceptive activity (which, as I read M. Binet's correspondent, is *absolutely normal*) but by causing a failure of attention or memory in keeping the 'dead reckoning'; by interfering with the muscular sense,[1] which helps us in this reckoning; and perhaps through mere nervousness and timidity which allow an apparent contradiction to prey upon the spirits.

(3) If the error is so persistent or so ill-grounded that it obviously indicates an abnormal state of mind, then it still remains to be considered whether the proper term for it as a pathological phenomenon is not rather *de*lusion as morbidly abnormal belief founded on inference, than illusion or hallucination, as morbidly abnormal sense-perception. I agree with M. Binet that sense as such is neither true nor false, and that only judgment can be true or false. But though all perception which can be true or false is judgment, yet all judgment is not sense-perception. And in the cases as described I can trace no error of sense-perception.

As at present instructed, then, I am inclined to doubt whether the erroneous beliefs in question are pathological phenomena, except in the general sense in which intellectual weakness or decay is a matter of pathology. Darwin's suggestion that 'some part of the brain may be specialised for the function of direction' does not conflict with the idea that this function may be a reckoning and not a sense. On the contrary, the importance which he attaches to 'dead reckoning' and to the sense of muscular movement tallies with the notion which my own experience has led me to form. I have frequently been able to trace the error which has caused a misjudgment of the kind under discussion.

One word more. Delusions often react on sense-perception and so generate illusions. (A man thinks he is a king and sees his rags as robes.) I do not gather that this phenomenon is alleged here. If M. Binet's correspondent had fancied he *saw* some object, which should be on the road to Neuilly, in the direction of his *visible* Arc de Triomphe, it would have been a clear case of illusion. But any such confusion within the field of perception is here conspicuous by its absence.

BERNARD BOSANQUET.

[1] See Darwin's article cited above. An error caused by dulness of the muscular sense, though in itself an error of direct perception, is for our present purpose an antecedent circumstance and premiss of inference.

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THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—The last meeting before Christmas continued the discussion of Schopenhauer's *World as Will and Idea*, the subject being introduced by a paper from Mr. A. F. Lake. The first meeting of the new year was held on Jan. 12, when a paper by Miss C. E. Plumptre on "Lucilio Vanini: His Life and Philosophy," was read and discussed. Jan. 26: Schopenhauer discussion carried to end of his Second Book; paper read by Mr. P. Daphne. Feb. 9: Paper read by Mr. C. C. Massey on "Dr. C. M. Ingleby's Formula of Reciprocal Causation in Sense-perception," which was followed by a discussion. Feb. 23: The Third Book of Schopenhauer's *World as Will, &c.*, was entered on by a paper from Mr. W. E. Beeton, which was followed by a discussion.

We are asked to state that the meetings of "THE PHILOSOPHICAL SOCIETY" are now held (by permission of the Trustees) at Dr. Williams's Library, Grafton St., upon the fourth Thursday of each month. This Society has entered successfully upon its second session and, in its new quarters, promises to become permanently established. It exists for the purpose of discussing freely, and from many points of view, the problems which philosophy presents for solution. Last session, the Society was chiefly occupied in examining Green's *Prolegomena to Ethics;* during the present one it has been engaged hitherto upon Mr. Herbert Spencer's *Psychology*. It would welcome an accesion of members, particularly of country members who would be willing, in conformity with one of its rules, to transmit from time to time communications upon subjects of philosophical interest. Gentlemen desiring further information should communicate with the Hon. Sec., the Rev. Fred. W. Ford, 80 Church Road, Islington, N.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XVIII., No. 2. G. S. Fullerton—Space of Four Dimensions. S. E. Blow—Dante's *Inferno*. F. E. Abbot—The Moral Creativeness of Man. Fichte—Facts of Consciousness (trans.). J. Dewey—Kant and Philosophic Method. Hegel—Introduction to the Philosophy of Religion (trans.). A. D'Orelli—Kym's 'Problem of Evil'. W. T. Harris—Dialectic Unity in Emerson's Prose. Notes and Discussions. Book Notices.

REVUE PHILOSOPHIQUE.—An. X., No. 1. A Binet et Ch. Féré—L'hypnotisme chez les hystériques: i. Le transfert psychique. P. Tannery—La théorie de la matière d'après Kant. G. Pouchet—La biologie aristotélique (iii.). Rev. générale (L. Dauriac—Moralistes anglais contemporains). Analyses et Comptes-rendus. Rev. des Period. Correspondance (G. Lechalas, P. Tannery et Ch. Richet—La suggestion mentale et le calcul des probabilités. F. Paulhan et L. Montchal—Les images motrices). No. 2. H. Lachelier—Les lois psychologiques dans l'école de Wundt. E. Beaussire—Les principes formels et les conditions subjectives de la moralité. G. Pouchet—La biologie aristotélique (iv.). Analyses, &c. (J. Sully, *Outlines of Psychology*, &c.). Variétés (G. Séailles—La causalité d'après David Hume). No. 3. Sikorski—L'évolution psychique de l'enfant: i. Les sentiments. A Binet et Ch. Féré—Hypnotisme et responsabilité. P. Regnaud—L'idée de temps: Origine des principales expressions qui s'y rapportent dans les langues indo-européenes. G. Pouchet—La biologie aristotélique (fin). Notes et Discussions (Bernheim—Sur l'hypnotisme chez les hystériques). E. Rabier—La causalité d'après Hume. Analyses, &c. (A. Seth, *The Development from Kant to Hegel*, &c.). Rev. des Périodiques. Variétés (Hylas—Un problème de métaphysique, &c.).

LA CRITIQUE PHILOSOPHIQUE.—An. XIII., Nos. 44-52. W. James—Le

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dilemme du déterminisme (44, 46, 49). F. Pillon—Sur le matérialisme à outrance de M. Richepin (49, 51); A propos de la notion de nombre: Réponse a M. George Noel (51, 52). Nouvelle Série (see MIND XXXVII., 158), An. I., No. 1. C. Renouvier—Philosophie, science et criticisme. L. Dauriac—La philosophie au collége. A. Schlœsing—Philosophie de l'apocalypse. C. Renouvier—La critique littéraire de la *Critique de la raison pure*. . . . F. L. Ogereau—Remarques sur quelques points de la morale stoïcienne au sujet d'un livre récent. . . . No. 2. C. Renouvier—Les problèmes de l'esthétique contemporaine: L'esthétique du jeu. F. Pillon—La formation des idées abstraites et générales. L. Dauriac—La science du beau et le génie. C. Renouvier—La critique littéraire, &c. (suite). E. Pécaut—Notes et reflexions sur la méthode en pédagogie. . . .

LA FILOSOFIA DELLE SCUOLE ITALIANE.—Vol. XXX., Disp. 3. L. Ferri—Una lezione elementare di psicologia: I fatti psichici e i fatti fisici. A. Martinazzoli—Di un poema filosofico del 500 dimenticato dagli italiani. A. Macchia—Pensieri di filosofia: Positivismo e libertà del volere. A. Chiappelli—Ancora sopra Panezio di Rodi e il suo dubbio sulla autenticità del *Fedone* platonico. Bibliografia, &c.

RIVISTA DI FILOSOFIA SCIENTIFICA.—Vol. IV., No. 2. R. Acanfora-Venturelli—Studî di psicofisica: Sulla legge della sensazione di Bernstein. G. Bonelli—Sulla nozione d'individuo in biologia. V. Cervello e F. Coppola—Studî di psicologia experimentale: Ricerche sulla durata degli atti psichici elementari sotto l'influenza delle sostanze ipnotiche (paraldeide e cloralio). F. Giulio—La fisiologia quale scienza autonoma. Rivista analitica, &c.

ZEITSCHRIFT FÜR PHILOSOPHIE, &c.—Bd. LXXXVI., Heft 1. J. Nathan—Die Grundbegriffe der Moral: Die Realität der moralischen Handlungen. J. Frohschammer—Wille oder Phantasie? Kritische Parallele zur Würdigung der Philosophie A. Schopenhauers. J. Döderlein—Warum hat der Raum drei Dimensionen? C. Th. Isenkrahe—Das Unendliche in der Ausdehnung. E. v. Hartmann—Krause's Æsthetik. Recensionen. Bibliographie.

PHILOSOPHISCHE MONATSHEFTE.—Bd. XXI., Heft 1. G. Hartung—Hartmann u. Lotze; Eine metaphysische Studie. E. Pfleiderer—Noch einmal Leibniz u. Geulinx. Recensionen u. Anzeigen (G. J. Stokes, *The Objectivity of Truth*; J. Th. Merz, *Leibniz*, &c.). Bibliographie, &c. Heft 2, 3. Koppelmann—Kant's Lehre vom analytischen Urtheil. E. v. Hartmann—Philosophie u. Christenthum. Recensionen u. Anzeigen. Bibliographie, &c.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. IX., Heft. 1. K. Kroman—Ueber Wesen u. Bedeutung der Philosophie. G. v. Gizycki—Moralische Beurtheilung. F. Dahl—Versuch einer Darstellung der psychischen Vorgänge in den Spinnen (i.). Anzeigen (H. Sidgwick, *The Methods of Ethics*, 3rd ed., &c.). Selbstanzeigen, &c.

PHILOSOPHISCHE STUDIEN.—Bd. II., Heft 3. E. Kraepelin—Zur Psychologie des Komischen (Schluss). G. Dietze—Untersuchungen über den Umfang des Bewusstseins bei regelmässig auf einander folgenden Schalleindrücken. G. Lorenz—Die Methode der richtigen u. falschen Fälle in ihrer Anwendung auf Schallempfindungen. V. Estel—Ueber die Frage des Weberschen Gesetzes u. Periodicitätsgesetzes im Gebiete des Zeitsinnes. W. Wundt—Zur Kritik des Seelenbegriffes.

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No. 39.] [JULY, 1885.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE CONSCIOUSNESS OF EXTERNAL REALITY.

By RICHARD HODGSON.

THE common man is staggered when I tell him that the shimmering transparency of green wrought by the shafts of sunlight in yonder bosky oak is in my consciousness; his surprise increases when I tell him that the tree and the weaving rays and the sun itself are in my consciousness, and when he thus discovers that my madness is not even tempered with the inconsistency of regarding vibrations as more external than colour. But when I tell him that the meaning I attribute to *consciousness* is very different from that which he attributes, that of course the leafy oak and the light-rays are external to my organism, and that something other than I produces these phenomena in my consciousness, he begins to look as if he thought I might be right, and that if he were to read a little Psychology he would no doubt be able to understand and probably agree with me. Descartes never settled his own grim question—Is the external world a dream? Truly the world of space is a dream, if by 'dream' is meant 'within the limits of my consciousness'. Descartes answered—No; but his

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appeal was to the Creator, and would be of just as much worth for proving that the phantasms of our sleepful hours have the flesh-and-blood reality we experience in our waking-days. If the Creator allows us to wander deceived amid the terrors and joys of an acknowledged midnight dreamland, why not allow us also to be involved in another more enduring dreamland of the daytime? What then do we mean by External Reality? It is one aspect of this question which I propose here to consider. Part of the reply will be suggested by the following general statement of my position.

I believe that I am an individual conscious human being, that a Cosmos exists of which I form a part—that there are ordered objects besides myself, individual conscious beings, human and other, as well as beings showing no sign of life. I am neither nothing nor everything: I exist, I am not the Cosmos; I am a conscious being, I am not God. Thus I believe in the existence of beings other than myself; in short, and without equivocation, I am conscious of what is other than my consciousness. This belief is in my consciousness; all the terms of it consist of states of my consciousness. Series of sequences and co-existences presented and represented in my consciousness, I can investigate; that other imagined series of sequences and co-existences may in the future find a surpassing fruition in presentation, I can well conceive; but that I can ever discover how the Cosmos is constituted apart from my consciousness, or even how in very truth any fragment of it becomes in some way known by me,—is a proposition which it is quite as difficult for me to entertain as to destroy the nature of my intelligence. Everything presented (or represented) to me is an event or phenomenon. I call these phenomena, collectively, consciousness; individually, states of consciousness or feelings. The first great division of feelings is that into *primary* feelings and *relational* feelings. This division is essentially one of quality. The second great division is that into *physical* feelings, *mental* feelings, and what for the present I call *Ego*-feelings. This division is essentially one of degree of remoteness from myself. The *Ego*-feelings are Will, Pleasure and Pain,—and relational feelings between these. Some would divide my consciousness broadly into two worlds, the world of physical events and the world of mental events; the latter consisting for the most part of representations (direct copies or supposed analogues) of portions of the former, but containing other feelings as well. Such a merely two-fold division appears to me to be faulty. This mental world itself contains two portions which are more disparate than the commonly con-

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trasted mental and physical worlds. My consciousness is clearly divisible in my present stage of evolution, into *three* worlds,—physical microcosm, mental microcosm, and *Ego*-world; the first of these being equivalent to the universe of the ordinary man, the two latter together forming what the ordinary man would call my mind. The *Ego*-world consists of the *Ego*-feelings alone. These three worlds lie on different planes as revealed in the analysis of consciousness, and there is as little excuse for confounding the third with the second as there is for confounding the second with the first. I do not say that, because these worlds are distinct enough to be different, they are therefore separable. On the contrary, I hold that they were at one stage of my evolution—using the word 'stage' reflectively—entirely indistinguishable; that they have undergone a slow differentiation; that at present it is impossible for me to be conscious of the first (physical microcosm) without the second and third, and impossible to be conscious of the second without the third, or third without the second, though I can expel the first. In ordinary waking life these three worlds are interrelated and interdependent. But connexion does not involve identity of rank, and one great bane of recent psychology is the treatment of consciousness too much as a level field or a lifeless clod, too little as a rising hill or a growing tree. What justification then can I urge for speaking of my consciousness of what is other than my consciousness?

I find certain regularities among the events of my consciousness—laws of sequence, laws of co-existence; and these regularities I express by means of propositions which vary considerably from one another as regards the cohesion between their terms. The cohesion between the terms of some propositions is indissoluble. These propositions are my fundamental beliefs. Between the terms of some other propositions there is a cohesion which, though not indissoluble, is yet greater than that between the terms of their contradictories. Such propositions are also my beliefs, though such beliefs are not fundamental. In other words: for reflection, belief or disbelief in a proposition expresses the result of the mental process which consists in testing the amount of cohesion between the terms of that proposition. Belief in the proposition is the feeling of stronger cohesion between its terms than between the terms of its contradictory. Disbelief in the proposition is the feeling of less cohesion between its terms than between the terms of its contradictory. The highest warrant that can be offered for the truth of a proposition is that in this deliberate process of

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testing, the cohesion between its terms remains indissoluble. Examining, then, the propositions that occur in my consciousness, I separate the fundamental from the non-fundamental beliefs, and among the former I find the belief that a world exists other than my consciousness. The question whether this world is in its nature consciousness need not now detain us. So far as I am concerned, I may call it *extra-conscious*. It is independent of my consciousness, though not in the sense that it is unrelated to my consciousness. It is the existence of this extra-conscious world which I imply when I say I am conscious of an external reality. In looking, *e.g.*, at the book before my eyes, I am immediately conscious of an external reality in the sense explained above. I find it utterly impossible, in becoming conscious of this form, colour, position in space, &c., to keep from arising also the consciousness of a world other than my consciousness. But the special difficulty I wish to attack in this paper is the *germ* of the consciousness of External Reality. This germ we may refer to as the consciousness of a *Non-Ego*.

Let us first revert with emphasis to the confusion, in the less developed intelligence, between the organism and the *Ego*. Contemplating the book and my organism, I can perceive their separateness—cannot possibly perceive or conceive them otherwise than as apart from each other in space; but besides the spatial externality I have the consciousness of a *Non-Ego*. Contemplating the elements of my perception (or conception)—a much more complex process—I conceive them as forming groups in the world of my consciousness; but along with them persists, ever inexpugnable, the consciousness of a *Non-Ego*. The ordinary man does not understand the nature of the distinction illustrated, and his judgment is therefore worth nothing. *Non-Ego* is for him nearly the same as non-organism. The appeal to the natural belief of the ordinary man in the existence of three-dimensional fragments of a coloured or colourless *Non-Ego*, is worse than the appeal to the natural belief of an Australian savage in the non-conservation of energy, or to the instinctive judgment of a grub that it must crawl for ever on solid greenery. I may ask a child whether two straight lines can enclose a space, and he may affirm positively that they can; but his affirmation is perhaps to be explained by the fact that he has not yet distinguished between straightness and curvature, or by the fact that he does not understand what is meant by enclosure of space: the home-region between the meeting straight lines may seem to him a space

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enclosed, just as the limits of the organism may be confused with the limits of consciousness. The ordinary man's real belief is that there are coloured and extended objects existing as such apart from his organism and mainly independent of it. Beyond this primitive belief the testimony of the ordinary man's consciousness is vague and vain. In the evolution of human intelligence, as differentiation continues, two positions become definitely distinguished. On the one hand various coloured and extended objects are recognised as external to the organism, which is another coloured and extended object; while on the other hand these objects are recognised as implying existences other than the *Ego*. These two conceptions—*external to the organism, other than the Ego*—become gradually separated and distinctly shaped. The former includes conceptions of extension, colour, &c.; the latter includes the conceptions of independence, permanence, and the root-constituent of Force. But in the earlier stages of the development, while the organism and the *Ego* are yet confused, what as such would be rightly regarded as existing apart from the former (*e.g.*, colour, space-occupancy, &c.) are wrongly taken for existing as such apart from the latter. Thus the objects in the spatial world outside the organism are eventually seen not to be the External Reality, but to imply the existence of an External Reality—to have associated with them indissolubly the consciousness of a *Non-Ego*.

Why should we discern among philosophic writers such a singular reluctance to admit their consciousness of an extra-conscious something? The extra-conscious group of events which is constituted of the elements of my past life is not in my consciousness any more than is the extra-conscious reality of which I am conscious when I gaze upon the environment of my organism. I admit it may be replied that the extra-conscious world of my past life *was* in my consciousness, whereas the other extra-conscious reality never has been in my consciousness. This is true; and a somewhat similar objection might be urged were I to appeal to my consciousness of future events: "Our finest hope is finest memory". But the difficulty of the objector is not the realisation in thought of the consciousness of an extra-conscious something; his difficulty is rather the explanation of the existence of this consciousness. His reply still leaves me with the notion of something other than my present consciousness. In what does this fundamental notion of otherness consist? What is the psychological analysis of its content? Nor is this all. I fail to see how any thinker

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of any school can, except by a subtle evasion, escape from the admission that he too finds this consciousness of a *Non-Ego* entwined throughout his intellectual life. One obstacle in the way of compelling this admission is the ambiguity of the word Consciousness.[1] I may give one instance of the obscurity into which this ambiguity is likely to lead us, taken from the writings of an able thinker, Mr. Shadworth Hodgson, who is by no means wanting in precision of statement. In his *Time and Space*, p. 5, Mr. Hodgson remarks: "By the term consciousness, in this Essay, is always meant consciousness as existing in an individual conscious being". On p. 21 he writes: "The current theory, I believe, is this, that existence or Being far exceeds consciousness," and after explaining and objecting to this view, as he conceives it, he proceeds to express his opinion, on p. 22, that "existence and consciousness are co-extensive, one as wide as, and not wider than, the other". Now the current theory may well be that Being far exceeds consciousness as existing in an individual conscious being, and, though Mr. Hodgson may have objections to such a theory, I doubt whether he would allow himself to plainly assert that existence is not wider than consciousness as existing in an individual conscious being, even after he had had an opportunity of discoursing upon the characteristic of "existence" as presence, actual or possible, in consciousness (as *existing* in an individual conscious being). He certainly thinks that we have "valid reasons for conceiving of ourselves and the actual world in which we live as surrounded by an *unseen*, but in its nature phenomenal, world, of which ours is the seen part, and with which it has real but unseen relations".[2] Statements like these unquestionably involve the consciousness of a *Non-Ego*. This profoundest conviction of all of us, that we are individual conscious beings in the midst of an orderly system which becomes in some way partially known to us, has not yet received its fair share of the psychological microscope.

[1] Let the reader consider what he means by consciousness in each of the following expressions:—

1. Consciousness of pain.
2. Consciousness of the pain of humanity.
3. Consciousness of this purple violet.
4. Consciousness of another human being.
5. Consciousness of existence other than my consciousness.
6. Consciousness of a world surrounding ourselves and the actual world in which we live.
7. Consciousness of the past.
8. Consciousness of the future.

[2] *Philosophy of Reflection*, i. 23.

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Sundry philosophers indeed admit the existence of the weighty problem they discover themselves in the act of carrying, by attempting in one mode or another to deal with it. Sometimes they get rid of the mysterious burden by throwing the bottom of their vessel overboard, sometimes by transforming it into a drifting differentiation of the Unknowable. In this latter case, however, the burden declines to be shifted, but consents to be doubled. It arises, they would say, in my consciousness because it arises in a Universal Consciousness; my consciousness *is* the Universal Consciousness—and lo! the explanation desiderated. Surely we shall be wise to examine more closely this consciousness of a not-self before we dare to disintegrate and evaporate it so freely. Whether we believe in an unseen world beyond us, or a world of which this physical microcosm is a transfiguration; whether we take our rest in Berkeley's God, or in a Universal *Ego*, or in the Unknowable; whether we pin our faith to some "thing-in-itself," or to the existence of separate conscious beings, or only to that which has not yet fully become; we pledge ourselves beyond retrieval to the consciousness of a *Non-Ego*. There is no alternative but between the maintenance of Solipsism and the acceptance of the bald plain fact that each is conscious of what is not his consciousness.

Equipped with these preliminary considerations, let us inquire in what this peculiar consciousness consists. What are its elements? The most successful attempt hitherto made at its resolution is the masterly analysis contributed by Mr. Spencer in elucidating his doctrine of Transfigured Realism. But he has not distinguished with sufficient clearness between the analysis of the developed notion of "objective existence" and the analysis of the germ of that notion. Hence his luminous exposition fails us at the point where we are most in darkness. Nevertheless the light he has given us in other portions of his Synthetic Philosophy will enable us, if we concentrate it on the sections dealing with Transfigured Realism, to lay bare the structure of the germ before us. In the first place, then, we have to examine Transfigured Realism. I accept this doctrine of Mr. Spencer's, but I am bound to admit that there are expressions in his Synthetic Philosophy from which it might be inferred that some cruder view has occasionally usurped the place of the true doctrine. Instances of this may be found in *Principles of Psychology*, §§ 438, 439, where, above all places, we should expect consummate accuracy. Spatial externality seems to be here confused with extra-conscious ex-

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ternality. Space-relations cannot themselves be rightly said to "constitute the knowledges of externality and position," if "externality" is supposed to apply to the reality beyond consciousness. Even supposing that the book of my mental microcosm, as well as the book of my physical microcosm, involves the consciousness of something not my consciousness, the state of consciousness thus involved is not in either case *constituted* of any space-relations, however closely it may cohere to them. There is without doubt, I repeat, surrounding my organism a physical world the parts of which are spatially external to one another: this world lies within the limits of my consciousness; but the primary assertion of Transfigured Realism is that a world exists other than my consciousness, which world may be described as having for its direct analogue, and only an analogue, that physical world within my consciousness with which I am familiar. Space-relations attach only to portions of the physical and mental worlds of my consciousness, and are but analogues of relations in a world other than my consciousness.

This doctrine of Mr. Spencer's has been widely and strangely misunderstood;[1] and, to avoid misconception as

[1] I may here notice some misapprehensions of Transfigured Realism shown by Dr. Edmund Montgomery in his articles contributed to MIND. I gather from some passages that he objects to phrases such as "representative relation," used for the world of consciousness in its relation to the world beyond; yet he frequently employs phrases precisely similar to this for the purpose of expressing his own doctrine, which, in its primary assertions, is in no way different from Mr. Spencer's. Dr. Montgomery speaks of powers not in consciousness and of their effects in consciousness, such effects being described as adequate mental signatures (MIND XXVI. 227, 228), and as *representing* the powers not in consciousness; yet he has apparently failed to recognise the resemblance between this view and Mr. Spencer's doctrine, to which he gives an utterly erroneous interpretation (MIND XXVII. 384). For Mr. Spencer's *Non-Ego* and its effects in consciousness Dr. Montgomery seems to have substituted a physical stimulus and the resulting organic change, both of which are thought of as in the world of my consciousness; he then distinctly implies that Transfigured Realism assumes "the properties of external existences" to be "reproduced in the organic medium through stimulation". The two elements, the nature of the correspondence between which he is discussing, are represented somewhat more obscurely in his note (p. 384); and it remains not quite certain which pair Dr. Montgomery would attribute to Mr. Spencer: (1) Changes outside the organism and changes inside the organism; (2) Stimulating powers and effects within mind; (3) World outside the organism and sensorial revelation within the organism. In any case it must be said that the representative relation of which Mr. Spencer speaks concerns what Dr. Montgomery calls the unconscious powers and the mental facts which *represent* them (MIND XXVI. 228); and I have been unable to find reasons given by Dr. Montgomery for assigning a different meaning to the word *represent* when used by himself from that

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to my own views, it is needful to draw attention to the existence of slight incongruities in Mr. Spencer's presentation of it. This task is not the less needful if, as I venture to think, Mr. Spencer's verbal inaccuracies have led him unawares into the adoption of views which will prove to be erroneous. It will suffice for my purpose if I comment upon a hypothesis dealing with the relation between one special form of External Reality and its tokens in my consciousness. I consider certain changes in my physical world as existing beyond the consciousness of another conscious being—say Tom—but as connected with various changes not in my consciousness, but regarded as in Tom's consciousness. These changes regarded as in Tom's consciousness are, to give but a general psychological description, representations of changes in my consciousness, which changes I experience under certain 'conditions' for my organism, and which I believe to resemble changes in Tom's consciousness, given similar 'conditions' for Tom's organism. In this complex grouping of consciousness is, of course, involved the consciousness of a *Non-Ego*. Let us now consider the following passage from *First Principles*, p. 217 :—

"Various classes of facts thus unite to prove that the law of metamorphosis, which holds among the physical forces, holds equally between them and the mental forces. Those modes of the Unknowable which we call heat, light, chemical affinity, &c., are alike transformable into each other, and into those modes of the Unknowable which we distinguish as sensation, emotion, thought; these, in their turns, being directly or indirectly re-transformable into the original shapes. That no idea or feeling arises, save as a result of some physical force expended in producing it, is fast becoming a commonplace of science; and whoever duly weighs the evidence will see that nothing but an overwhelming bias in favour of a preconceived theory can explain its non-acceptance. How this metamorphosis takes place—how a force existing as motion, heat or light, can ever become a mode of consciousness—how it is possible for aerial vibrations to generate the sensation we call sound, or for the forces liberated by chemical changes in the brain to give rise to emotion—these are mysteries which it is impossible to fathom. But they are not profounder mysteries that the transformations of the physical forces into each other. They are not more completely beyond our comprehension than the natures of Mind and

which it bears when used by Mr. Spencer. Dr. Montgomery further objects to the word *transfiguration* as being misleading; yet he does not hesitate to use the word *revelation*, and, in the same article where this mistaken criticism of Mr. Spencer's doctrine occurs, he holds that "we trust, and securely trust, the perceptual revelation as a symbolical representation most reliable to count upon," that "we have to remember how very remotely and figuratively we in truth become aware of it," and speaks of "symbolical figurations" and "the world figured in feeling" (MIND XXVII. 393-397). No reasons appear to be given for the implied superiority of the word "figuration" over "transfiguration".

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Matter. They have simply the same insolubility as all other ultimate questions. We can learn nothing more than that here is one of the uniformities in the order of phenomena."

In this extract there seems to be either a verbal confusion of Transfigured Realism with the empirical view that Tom's consciousness is supposed to be located in a special part of my physical world, or a temporary adoption of the erroneous empirical view, in forgetfulness of the standpoint of Transfigured Realism. What Mr. Spencer must mean is that modes of the Unknowable beyond my consciousness may be transformable into one another, that some of these thus transformable modes may be variously manifested in my consciousness as heat, light, &c., and may also be the cause of changes in Tom's consciousness, such changes being re-transformable, directly or indirectly, into the modes of the Unknowable, of which the effects in my consciousness are heat, light, &c. What produces a feeling in Tom is some mode of the Unknowable which can be symbolised in my consciousness as Force. To ask "how a force existing as motion, heat or light, can become a mode of consciousness," is to ask either how consciousness itself arises, to which no real answer can ever be given by us, or to ask how one mode of consciousness becomes another mode, how, *e.g.*, heat becomes light. But heat is transformed into light with no greater ease than aerial vibrations are transformed into sound, if with much less ease than cerebral changes are transformed into emotion. Under certain conditions a mode of the Unknowable beyond my consciousness may produce in my consciousness the sensation of heat, under different conditions the sensation of light; but the sensation of heat is not transformed into the sensation of light. Again, something which produces in my consciousness, under one set of circumstances, *aerial vibrations*, produces in my consciousness under another set of circumstances, *sound;* but neither of these results generates the other, any more than the colour of a rose generates the scent of it; both are results generated by causes beyond my consciousness. There is no causation whatever in the physical world, only sequence and coexistence. Nor can we entertain the supposition that the physical forces of the brain are transformed into emotion. To the emotions I experience in thinking of a particular poem, I can trace no near (even) antecedent in any way resembling physical forces of the brain. Tom may perceive divers brain-changes in what he calls Hodgson's organism, but these are in Tom's consciousness, and have indubitably nothing to do with my aforesaid emotions, by way of causing them. To

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put the same truth in another way, changing the persons in the case supposed: brain-changes in Tom's organism are phenomena in my consciousness, and are not expended in producing sensation in Tom's consciousness, still less in producing emotion. What must be meant by Mr. Spencer is that heat, light, aerial vibrations and "forces" generally in my consciousness, have certain sequences in my consciousness, *viz.*, brain-changes in Tom's organism, which are in some way intimately related to certain changes in Tom's consciousness. What that relation may be is said to be a mystery, but a mystery not more profound than the relation between heat and light in my consciousness, as two different effects of some varying mode of the Unknowable beyond my consciousness.

With the extract quoted from *First Principles* let us compare some passages from the *Principles of Psychology*. In the chapter on "Æstho-Physiology" (part i.) we read of "a class of facts absolutely without any perceptible or conceivable community of nature with the facts that have occupied us"; we read that "what is objectively a change in a superior nerve-centre is subjectively a feeling," and that "at the particular place in a superior nervous centre where, in some mysterious way, an objective change or nervous action causes a subjective change or feeling, there exists a quantitative equivalence between the two"; finally, we learn that "impossible as it is to get immediate proof that feeling and nervous action are the inner and outer faces of the same change, yet the hypothesis that they are so harmonises with all the observed facts". Now I do not deny that an intimate relation subsists between the nervous action which I perceive in Tom's brain, and some particular feeling which I believe to exist in Tom's consciousness. But I venture to think that Mr. Spencer, not having kept his Transfigured Realism well to the front, has made use of expressions which seem hard to reconcile, and has put forward an obscurely-stated, if not what may prove to be an untenable and erroneous, hypothesis. (1) Something is said to be subjectively a feeling and objectively a nervous action. (2) This *nervous action*—objective change—is said to cause a *feeling*—subjective change. (3) One and the same change is said to have two faces, the inner face being feeling, and the outer face nervous action. In statement (1) we can substitute 'one and the same change' for 'something'. This change, which has two faces, must, if I am not to identify it with one of its own faces, be a mode of the Unknowable beyond consciousness. Let us consider first the case where

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the nervous action is in my consciousness and the feeling is in Tom's consciousness; secondly, the case where the nervous action and the feeling are both presumed to be in my consciousness.

On the first supposition, the nervous action in my consciousness cannot be the cause of the feeling in Tom's consciousness; it would be much more nearly the truth to say that the feeling in Tom's consciousness is the cause of the nervous action in my consciousness. Tom's feeling can be supposed to remain just the same whether I know anything about the nervous action of his organism or not. Neither, taking the second supposition, can the imagined nervous action in my consciousness be the cause of my feeling, which can be supposed to remain whether I know anything about the nervous action of my organism or not. Under either supposition, if the statement involved in (2) is valid, the outer face must be the cause of the inner face of the mode of the Unknowable beyond my consciousness. Surely there is at least a verbal inconsistency between Mr. Spencer's statements? But let by *nervous action* be meant that mode of the Unknowable beyond consciousness which is symbolised by nervous action in my consciousness. Can we now see our way to a reconciliation? It will then follow from (1) that the mode of the Unknowable is either a feeling or is symbolised by a feeling; in other words, that mode of the Unknowable which causes the nervous action in Tom's organism, which forms part of my consciousness, is either identical with[1] Tom's feeling or is symbolised by Tom's feeling. Now considering (2), we find that the mode of the Unknowable is said to *cause* the feeling; hence it must be *symbolised* by Tom's feeling. In other words, the nervous action in my consciousness and the feeling in Tom's consciousness are two different effects, very closely connected in time, of a mode of the Unknowable beyond both consciousnesses. Of the precise relation between these effects I am as yet ignorant. If Tom resembles myself, the effects must be similar, unless the one effect is not so directly wrought as the other. I conclude, therefore — Tom's organism being so much like mine—that a difference of directness exists, but I think it inadvisable to characterise that difference as one of *side, aspect* or *face*. Such words imply a less difference than may be actually found to exist; and, if they render a service as convenient expressions, they may render a disservice far greater than the service, by

[1] The view held by Barratt and Clifford.

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acting as a block to inquiry instead of stimulating the scientist to approximate nearer in the physical realm to the changes in his consciousness which are most intimately connected with the changes in the consciousness of another. There may be such physical changes, yet unknown, which are to the changes of nerve-matter in my brain, as these brain-changes are to the retinal changes or to the first etherial undulations that leave the lamp-flame before my organism.

A criticism made by Mr. Shadworth Hodgson on this point nearly hits the mark. "Mr. Spencer," he says,[1] "takes the proximate *conditions* of subjective states (conditions *existendi*) for the objective *aspects* of those states". Strictly speaking, the nervous changes are not conditions *existendi*, but *symbols* of conditions *existendi*. That is to say, the cause, other than my consciousness, of that microcosmic event of mine which I describe as the climax of a brain-change in Tom's organism, precedes, and is neither concomitant nor identical with the correlated change in Tom's consciousness. That the nervous change (regarded simply as an alteration in the configuration of certain molecules of nerve-matter) is the nearest approach in time and space and objective feeling that I can make in my microcosm towards the occurrence of a change in Tom's consciousness, is a proposition I decline to accept. Nervous change in this sense is not the "outer face". Rather is it a mask and a protection for the "outer face," which is probably not woven even of 'bound ether'. And, contrary to the opinion expressed by Mr. Spencer, I hold that the hypothesis of such a correlation as he supposes between feeling and nervous action cannot lead to complete congruity among our experiences. I hope at another time to show, by analysis of my worlds of three degrees, that the hypothesis referred to does not harmonise with all the facts.

To the lax passages already quoted from Mr. Spencer's

[1] *Philosophy of Reflection*, i. 61. Compare ii. 78 :—"States of consciousness, as such, may be conceived as floating like an aura over, or inhering like an attribute in, the nerve-motions which condition them. Like the colour of a star, the shape of a statue, the odour of a flower, the sound of a harp, the taste of a fruit, *abstractions*, as we call them popularly, from the star, the statue, the flower, the harp, the fruit, but *really*, to us, their most essential features, constitutive of their inmost nature, their life, their soul. These are states of consciousness objectively taken, and they furnish us with an analogy for interpreting the relation of states of consciousness generally to nerve-substance and nerve-motion." States of consciousness, "objectively taken," float "like an aura". How are they conceived when *subjectively* taken, the Method of Reflection being used?

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writings, let us now add the more careful statements made in *Principles of Psychology*, §§ 62, 63, p. 272. We there find that we are incapable of assimilating subjective and objective activities; we cannot unite the two "so as to conceive that reality of which they are the opposite faces," and Mr. Spencer analytically justifies these statements by showing that "the conception of an oscillating molecule [objective change] is built out of many units of feeling; and that to identify it with a nervous shock [subjective change] would be to identify a whole congeries of units with a single unit". Mr. Spencer shows, moreover, that, though "it is impossible to interpret inner existence in terms of outer existence," it is a conceivable hypothesis that outer existence may be interpreted in terms of inner existence. Any actual interpretation but the latter is indeed impossible to thought, as is frequently urged by Mr. Spencer himself.

We are thus led to the various presentations of the principle of the Relativity of Knowledge, which is but a different aspect of Transfigured Realism. Let us collate these from *First Principles* and *Principles of Psychology*, with the object of determining clearly that the External Reality is interpreted by us in terms of our own consciousness, and of investigating what states of consciousness comprise the ultimate interpretation. We shall then be able to enter upon the final introspective analysis of our consciousness of a *Non-Ego*.

In *Principles of Psychology*, pt. ii. cc. 3, 4, Mr. Spencer argues for the relativity of the two ultimate constituents in the composition of mind, *viz.*, Primary Feelings and Relational Feelings. In c. 3 he concludes that what I am conscious of as properties of matter are but states of my consciousness, which are merely symbols of something other than my consciousness, of the nature of which something I am ignorant. (This statement must not be taken to the prejudice of any speculation depending upon my belief in the existence of other consciousnesses like my own.) But the validity of this conclusion is shown to depend on the postulate that there is something beyond my consciousness. In c. 4 it is first argued that the compound relations of Co-existence, Sequence and Difference in my consciousness cannot resemble those relations beyond my consciousness of which they are the symbols; that my Space-relations certainly differ from the ontological relations qualitatively as well as quantitatively; that my compound relations of Sequence and Difference differ from the ontological relations certainly

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quantitatively and probably also qualitatively; and we are afterwards "forced to the conclusion that the relations of Co-existence, of Sequence and of Difference, as we know them, do not obtain beyond consciousness". Mr. Spencer then shows that relations of Co-existence and Sequence depend ultimately upon relations of Difference and No-Difference, and proceeds to demonstrate that the relation of Difference itself is relative. The argument in this place should be compared with the concluding chapters (24, 25) of pt. vi. "Special Analysis," where (§ 374) we learn that—

"The ultimate relation is nothing more than a *change* in the state of consciousness; and we call it either a relation of unlikeness or a relation of sequence, according as we think of the *contrast* between the antecedent and consequent states, or of their *order*. Beyond thus describing each aspect of this relation in terms of the other aspect, no account can be given of it. Like every primordial experience—like the sensation of redness or that of warmth, it transcends analysis."

According to the view thus expressed, the simple relation of unlikeness and the simple relation of sequence both alike transcend analysis; they are equally ultimate. Now, supposing Mr. Spencer's argument in pt. ii. c. 4. § 93, to be valid, he has shown our relativity in respect of one aspect only of the ultimate relation: we require that our relativity should be shown of the other aspect also. I impugn now only the last argument he employs to exhibit the relativity in question. To show that a difference in kind, which is static, can be known only by means of a change, which is dynamic,—is not enough to show that the nature of a dynamic difference may not be truly given by consciousness. Adopting Mr. Spencer's standpoint, and taking an instance he uses elsewhere, let us suppose two notes of different pitch in quick succession. Here is a relation of unlikeness; it is also a relation of sequence. If we think of the contrast between the two notes, it is the former; if we think of the order of the two notes, it is the latter. Between these two notes, which we call sequent, is there anything corresponding to the relational feeling of sequence that forms the transition for us from one to the other? Can we *think* there is not? Can we restrain the relation from arising? Again, is Mr. Spencer's argument concerning the static difference valid? What exactly does his relation of difference involve? An opponent may urge that while it *is* a change, for psychological description, it may not *mean* a change; just as what *is* a state of my consciousness may *mean* something other than my consciousness; and that the comparison Mr. Spencer really makes is between a developed conception of two co-

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existent colours, and the first step of the process through which we must pass before such a conception can be reached. Let us recall a passage from the chapter on "The Relations of Co-existence and Non-Co-existence" (§ 368):—

"How can the no-changes outside be symbolised by the changes inside? That changes in the *Non-Ego* may be expressed by changes in the *Ego*, is comprehensible enough; but how is it possible for objective rest to be signified by subjective motion? Evidently there is only one possibility. A consciousness ever in a state of change, can represent to itself a no-change only by an inversion of one of its changes—by a duplication of consciousness equivalent to an arrest—by a regress which undergoes a previous progress—by two changes which exactly neutralise each other."

But the objective rest and the no-changes are, for psychological description, just as much changes as the other changes with which they are compared. Hence there is an important qualification which must not be omitted from the above chapters on Relativity, and which enables us to harmonise passages that without it would appear incongruous. In the chapter on "The Perception of Resistance" we analyse as far as "the primordial, the universal, the ever-present constituent of consciousness," *viz.*, the impression of resistance, and we learn (§ 349) that—

"Resistance, as disclosed by opposition to our own energies, is the only species of external activity which we are obliged to think of as subjectively and objectively the same. *We are disabled from conceiving mechanical force in itself under a form different from mechanical force as ordinarily presented to consciousness.*" . . . "Though the proposition that objective force differs in nature from force as we know it subjectively, is verbally intelligible: and though the supposition that the two are alike commits us to absurdities that cannot be entertained: yet to frame a conception of force in the *Non-Ego* different from the conception we have of force in the *Ego* is utterly beyond our power."

In reading pt. ii. c. 3, on "The Relativity of Feelings," then, it must not be forgotten that the something beyond consciousness which has Primary Feeling for its effect, is necessarily symbolised by the root-element of Force. Similarly, in reading c. 4, on "The Relativity of Relations," it must not be forgotten that the nexus beyond consciousness which has Relational Feeling for its effect, is necessarily symbolised by change, in its two aspects of Unlikeness and Sequence. Therefore when Mr. Spencer writes: "There is some ontological order whence arises the phenomenal order we know as Space; there is some ontological order whence arises the phenomenal order we know as Time; and there is some ontological nexus whence arises the phenomenal relation we know as Difference,"—we must add that though the proposition that "objective" difference differs in nature from

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difference as I know it "subjectively" is verbally intelligible; and although the supposition that the two are alike commits me to absurdities that cannot be entertained; yet to frame a conception of difference beyond my consciousness, different from the conception I have of difference in my consciousness, is utterly beyond my power. Play with our symbols as we please, we cannot escape some ultimate Relational Feeling any more than we can escape some ultimate Primary Feeling. Primary Feeling is the substance of thought; Relational Feeling is the form of thought; and when we have reduced all substances to one substance, all forms to one form, we can get no farther. All other substances and forms having been interpreted in terms of these, it is plainly impossible to interpret these in terms of anything else. The ultimate substance and the ultimate form are alike necessarily relative, and are alike relatively necessary.

The doctrine of Transfigured Realism is one towards which Reid partially struggled, which Brown fully attained, and which Hamilton succeeded, sometimes in expressing, sometimes in darkening, and finally in getting forgotten. But while I regret and reject Hamilton's obscurities, my own conviction as to the view he attempted, however ineffectually, to announce, resembles that of Professor Veitch;[1] the view is a dim and stunted form of Transfigured Realism (though Prof. Veitch makes no mention of this title), and Brown's philosophy, Hamilton's animadversions notwithstanding,

[1] *Hamilton* ("Philosophical Classics"), c. 5. It is unfortunate that in his defence of Hamilton Prof. Veitch has carried his anxiety so far that he altogether misconstrues Brown's doctrine, and entirely alters the meaning of several passages which he quotes from Brown, taking occasion to remark that "Mill ventures on the dogmatic assertion that Brown's doctrine of Perception was not even one of mediate perception," and that a more inaccurate view than Mill gives of Brown's doctrine could not be given. In defence of Mill's correct version, and of Brown's principles, which are substantially the same as Mr. Spencer's, and which are so succinctly expressed in that monument of loving labour, *The Philosophy of the Human Mind*, I must point out an instance of carelessness on the part of Prof. Veitch which will serve to render his criticisms of Brown invalid. Other instances might be given were it needful. In support of his assertion that Brown "expressly limits knowledge or consciousness in Perception to a mere state of the mind," Prof. Veitch appeals to two passages, one of which he misapprehends and the other of which he quotes as follows: "What I *learn by* perception of the colour, or softness, or shape, or fragrance, or taste of a peach, is a certain state of my own mind," &c. But Brown's words are: "What I *term my* perception of the colour, or softness, or shape, or fragrance, or taste of a peach, is a certain state of my own mind," &c. The reader may discover Brown's doctrine in *Lect.* viii., p. 53; xxv., p. 160; xxvi., p. 167; xxvii., p. 168.

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rests upon a perfectly clear if undeveloped form of the same doctrine. Brown and Mr. Spencer agree in holding that the belief in an external reality is irresistible, and that each can know External Reality only in terms of consciousness. They also agree in offering an explanation of the circumstances under which the belief arises. We shall first comment upon Mr. Spencer's account, which is given in two forms, one in *First Principles* (pt. ii. c. 2, "The Data of Philosophy"), the other in *Principles of Psychology*, pt. vii. (closing chapters of "General Analysis"). Mr. Spencer is not there proving the existence of a real world beyond consciousness; his account is not a process of reasoning by which an external reality is logically elaborated by a reflecting self out of a series of states of consciousness. What he attempts to show is that if the procedure of consciousness, before conscious reasoning began, resembled its present procedure, certain states of consciousness which must have been given would lead to the establishment of other states of consciousness; and that these other states of consciousness must have gradually consolidated into the developed notion we possess of "objective existence". Obviously, by series of alternative necessities, when asked how the consciousness of "objective existence" can arise, the answer may be either that its origin cannot be explained or that it can. If an explanation is offered, the development will be shown to have taken place either in or not in accordance with processes of consciousness like those now in operation. If not in such accordance, reasons must be given for holding that the different processes necessary for the required consciousness existed. If it be shown that processes like those normal ones at present existing would suffice to "generate" this consciousness, the only seeming answer is twofold, *viz.*, that when this consciousness is supposed to have appeared, the processes were different, and also were not competent for its "genesis"; and what are the grounds for this position? Evidently an explanation is not unsatisfactory because of positing such processes of consciousness as are now in operation; it would be unsatisfactory to posit otherwise. There are two questions to be distinguished in considering Mr. Spencer's account: What are the elements which constitute this consolidated conception of objective existence? How is it that this conception coheres indissolubly with vivid states of consciousness? Now, if the existence of any of the elements be denied, no synthesis of them will be accepted. If the initial cohesions according to the normal working of consciousness be denied, no absolute cohesion can be shown to result.

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Again, if the existence of these elements be admitted and also the strengthening of their cohesions into indissolubility, no more is demanded. But if at any stage of the inquiry a halt be made, and the question asked what any one of these states of consciousness may symbolise, and what reason we have for accepting such symbolism—if, *e.g.*, it should be asked why should I accept that a certain primary or relational feeling constitutes the consciousness of something which is not my consciousness, two answers may be given. One answer is, that any denying of it must itself depend upon a precisely similar interpretation of other states of consciousness, *i.e.*, the acceptance of *their* symbolisms, and so *ad infinitum:* the objection is annihilated by its own existence. The other answer is, that the question results from a confusion between the meaning of a state of consciousness, and the psychological description of that state in subsequent analysis.

Mr. Spencer's argument is much too long for me to summarise here. I shall content myself with quoting sundry phrases which are of the utmost importance to us in our present search :—

"After that antecedent in the faint aggregate which I call the resolve to do this." "Feelings of muscular tension." "Nascent thoughts of some energy akin to that which I used myself." "So that to every motion in the vivid aggregate which has not for its antecedent a muscular tension excited by an emotion in me, there irresistibly coheres a nascent consciousness of an antecedent which takes the vague form of some such tension—is symbolised by the sense of effort,"—"the power which the faint aggregate perpetually evolves within itself." "The consciousness of something which resists comes to be the general symbol for that independent existence implied by the vivid aggregate,"—"a nascent consciousness of force, akin to the force evolved by the principle of continuity in the *Ego*."

The central point of Mr. Spencer's argument depends upon his *idea of power other than his own*, which is contrasted with *his own sense of power*. This idea of power forms the correlative of the feeling of resistance. Let us briefly compare this view with that of Brown, from whose theory Mr. Spencer's may be said to have evolved. Perhaps both theories may be considered right as far as they go; but neither goes far enough; and their places of stoppage are not very different. The failure in both appears to me to result from a defective analysis of consciousness, the two philosophers having gone astray at the same critical point. Brown's view is seen in the following passage :—

"The infant stretches out his arm for the first time, by that volition, without a known object, which is either a mere instinct, or very near akin to one. This motion is accompanied with a certain feeling—he repeats the

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volition which moves his arm fifty or one thousand times, and the same progress of feeling takes place during the muscular action. In this repeated progress he feels the truth of that intuitive proposition which, in the whole course of the life that awaits him, is to be the source of all his expectations, and the guide of all his actions—the simple proposition, that what has been as an antecedent will be followed by what has been as a consequent. At length he stretches out his arm again, and, instead of the accustomed progression, there arises, in the resistance of some object opposed to him, a feeling of a very different kind, which, if he persevere in his voluntary effort, increases gradually to severe pain, before he has half completed the usual progress. There is a difference, therefore, which we may, without any absurdity, suppose to astonish the little reasoner ; for the expectation of similar consequents from similar antecedents is observable even in his earliest actions, and is probably the result of an original law of mind, as universal as that which renders certain sensations of sight and sound the immediate result of certain affections of our eye or ear. To any being who is thus impressed with belief of similarities of sequence, a different consequent necessarily implies a difference of the antecedent. In the case at present supposed, however, the infant, who as yet knows nothing but himself, is conscious of no previous difference ; and the feeling of resistance seems to him, therefore, something unknown, which has its cause in something that is not himself." . . . "In the view which I take of the subject, accordingly, I do not conceive that it is by any peculiar intuition we are led to believe in the existence of things without. I consider this belief as the effect of that more general intuition by which we consider a new consequent, in any series of accustomed events, as the sign of a new antecedent, and of that equally general principle of association, by which feelings that have frequently coexisted flow together and constitute afterwards one complex whole."

Brown here very nearly stumbled on the truth that Cause demands Will ; but Will attains no prominence in his system ; I might almost say, has no place at all. Mr. Spencer has gone further than this, but the view which he seems to have been once or twice on the point of adopting, he has not adopted. In his Essay (1860), "Bain on the Emotions and the Will," he remarks : "Leaving out of view the Will, which is a simple homogeneous mental state, forming the link between feeling and action, and not admitting of sub-divisions, our states of consciousness fall into two great classes—COGNITIONS and FEELINGS". In *Principles of Psychology*, pt. iv. c. 2, "The Will," we read : "This passing of an ideal motor change into a real one, we distinguish as Will"; also—hardly consistent with the foregoing—that Will is "nothing but the general name given to the special feeling that gains supremacy and determines action"; and in *Principles of Psychology*, pt. vi. c. 17, § 351, we find the following pregnant but neglected passage :—

"Respecting the perception of resistance, that is of muscular tension, it has still to be pointed out that it consists in the establishment of a relation between the muscular sensation itself and that state of consciousness which

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we call *will*—a relation such that the unbalanced surplus of feeling of whatever kind, which for the moment constitutes the will, is the antecedent of the muscular sensation, and coexists with it while it lasts."

If we now look back to the phrases quoted from Mr. Spencer's account of the evolution of our notion of objective existence, we find that he speaks not only of the antecedent *emotion* in the faint aggregate, but of the antecedent *resolve*. We find too that the general symbol for the independent existence implied by the vivid aggregate is the consciousness of something that *resists*—or a nascent consciousness of *force*. Wherefore it is plain that in the background of Mr. Spencer's account lies inexpugnably this feeling that we call Will, whatever it may be.

Again, since Force depends upon Resistance and Resistance upon Will, and since the consciousness of the Persistence of Force is one form of the consciousness of the Unknowable, our consciousness of the Unknowable must be declared as exhibiting Will. Further, I cannot recognise my consciousness of a Non-Relative in the form which Mr. Spencer has given to it. He urges, in the chapter on "The Relativity of all Knowledge" *(First Principles)*, that we have an indefinite consciousness of the Non-Relative. He denies that to this indefinite consciousness we can give any qualitative or quantitative expression whatever (p. 91); it is likened to or identified with the formless nascent consciousness of a Cause (p. 93); it is the consciousness of an actuality lying behind appearances (p. 97), the obverse of our self-consciousness (p. 96), and that undifferentiated substance of consciousness which is conditioned anew in every thought (p. 96). The way in which we get this consciousness of reality is obscurely stated on pp. 95, 96; in fact the descriptions there given are confused, and irreconcilable with his later account of the distinction between the consciousness of self and the consciousness of not-self, and of the process of their differentiation. Mr. Spencer's inability to analyse the consciousness in question, when he wrote these contradictory passages in *First Principles*, must be set off by his analysis of the conception of objective existence in the *Principles of Psychology*. If the later account is valid, the statements in *First Principles* concerning the indefiniteness of the consciousness of the Non-Relative must be invalid. In the consciousness of the Non-Relative, of the Persistence of Force, of the Unknowable, of External Reality,—the ultimate feeling is Will. Will is therefore the foundation of Mr. Spencer's Philosophy.

What then is the position of Will in the realm of

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consciousness? Is Will possible without muscular tension? Is muscular tension merely one manifestation of Will on a lower plane than Will? These questions demand a full vindication of the views expressed at the outset of this article, but for the present I merely remind the reader of my dissent from the view held by Mr. Spencer,—and, I may add, of my dissent equally from the view put forward by Mr. Mercier (MIND XXXVI., pp. 519-522), professedly in lieu of Mr. Spencer's. Mr. Mercier distinguishes between the feeling that accompanies the incipient stage of an act and the feeling of muscular movement; to the former he gives the name Will. He regards the idea of the movement as in some cases "precisely similar, save only that it is of inferior intensity or vividness," to Will. When the idea of a movement reaches a certain intensity, and is associated with action, that idea of a movement is called Will. The initiatory stage of an act may occur and no movements follow; yet the feeling appropriate to that first stage will also occur, "since the nerve-centre discharges with the requisite energy"; *i.e.*, Will may exist without the feeling of muscular movement. Moreover, Will lasts during "the passage of the nerve-current from the highest nerve-regions to the muscles". Now I am still in doubt as to Mr. Mercier's real view. I understand that there must be something more than the mere idea—however intense—of the movement, in order to constitute Will. What is the additional element? Is it, "on the physiological side," the discharge of energy requisite for the production of muscular movement, whether muscular movement ensues or not? In any case it seems, according to Mr. Mercier, that Will consists chiefly in an idea of the movement. But this is absolutely impossible if, as he also maintains, Will is a Primary Feeling and not a Relational Feeling: if Will consists chiefly in an idea of a movement, it must consist chiefly in a feeling of relation. In fact, there lingers the same obscurity in Mr. Mercier's account as in Mr. Spencer's. Mr. Spencer, we saw, speaks of Will as the "passing of an ideal motor change into a real one," and as "the general name given to the special feeling that gains supremacy and determines action". Is Will the "ideal motor change" or the "passing"? As Will is described by Mr. Mercier, it is a complex state of consciousness: in my opinion it is simple. The following four states of consciousness are quite different from one another: (1) Idea of movement, (2) Will, (3) Feeling of discharge of energy, (4) Feeling of muscular movement. Mr. Mercier holds that Will begins with a

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particular nervous process and corresponds with it; I do not find that Will has its counterpart in nervous process at all, though it may have a counterpart in some subtler physical process in intimate association with the nervous process. Mr. Mercier has attempted to explain one peculiarity of Will by his assumption that the nervous process underlying Will is the resultant "of the activities of *all* the highest nerve-regions". But why should either an idea of a movement or the discharge of energy in specific nerve-channels be described as so extensive? The feeling of anger, to which he refers, is just as much such a resultant. Unquestionably it is a fact that Will is regarded as the special expression of the *Ego;* but for the existence of the supposed physiological counterpart which Mr. Mercier offers of this fact, I can find no warrant alleged. Analogous objections might be urged against Schopenhauer, who, notwithstanding his great glimpse into the foundations of philosophy, committed a grievous failure of psychological insight when he identified every act of Will with a movement of the body. In my view, Will lies on a different plane of consciousness altogether from those other feelings with which it is commonly confused.

There remains the task of completing our analysis of the bare consciousness of a *Non-Ego*, now that we have reached the conclusion that Will is the primary feeling involved. We shall not first ask what account can be given of this consciousness according to which it will, as a state of consciousness, claim no improper superiority, but fall into an already allotted place in the evolution of mind. It may possibly appear to some that the inquiry if stated in this form precludes to a certain extent an impartial investigation; although to others, on the contrary, it may seem that only when the question is thus treated are we likely to obtain a satisfactory answer. Let us then, without foreclosure of any sort, make the question essentially one of direct introspection. But here another warning must be given. It is a great mistake to suppose that what we describe in its present fully differentiated state always existed so either for us or in reality, *i.e.*, in our consciousness and recognised as there, or in our consciousness albeit unrecognised. The process of thought, in my view, is an evolution, and analogous therefore to the gradual development of the complex grossly-material universe from a nebulous mass or an atom-tornado, of the organism from a relatively homogeneous protoplasm. And the process still continues. It is not by addition of already

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formed and clearly distinguished parts that thought grows; it is by the slow differentiation of a single vague thing into many definite things. Further, when we *analyse*, we analyse for reflection only, not for the real state of consciousness of which we offer an analysis. The meaning of the analysis is—that before I could have the integrated state of consciousness which I am erroneously supposed to *analyse* (in the strict sense of the word), I must have had certain experiences which, different as they appear in my quasi-analysis, I now class and label easily enough, but which never previously were really distinct so far as concerns their relation to the "complex" state. For the present reflecting *me*, certain states of consciousness are both separate and recognised as separate; but for the past experiencing *me* these states of consciousness were, in the first stage, neither recognised as separate nor actually separate, and, in the second stage, were actually separate but not recognised as separate. What some would call their compound is rather to be called their result, as Brown long ago pointed out. Nay, the word result is too strong, as Brown himself would admit; we should say—invariable immediate conjoined event. The third state so often termed a compound of two others is a different thing from either alone or both together. No step in Evolution can be *accounted for* by any preceding step. No antecedent can account for any consequent which is higher than itself. No complex can be accounted for by any simple or series of simples. These truths appear to me to be axiomatic. All I can say is that the Unknowable has built up my worlds, and such and such are the successive stages of the building. Every stage in synthesis is a new manifestation of the Unknowable; it is not caused by the preceding stages, but is caused by a continuation of whatever caused the preceding stages. From this position my consciousness of a *Non-Ego*, like every other state of consciousness, must be deemed unique and simple; but from the standpoint of psychological description, it must be said to have had its antecedents in my experience, it shows the complexity explained above, and may be analysed and classified in reflection.

How then shall we draw and colour this consciousness of a *Non-Ego*? Is it a Primary Feeling or a Relational Feeling? And to which of our three worlds does it belong? It needs but a glance to assure us that the feeling must be Relational, and that it forms part of our *Ego*-world. I maintain that in contemplating this pen I am conscious of a *Non-Ego*. With my perception of the body as presenting dynamical, statico-

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dynamical, and statical attributes, coheres the consciousness of a *Non-Ego;* it is the consciousness of a Will not mine. Some relation to my own Will is involved. One of the term-feelings is a vivid state of Will. There is a feeling of relation between this and some other term-feeling; this other term-feeling is a faint state of Will. The bare consciousness of a *Non-Ego*, which forms the germ of the consciousness of External Reality, is a Relational Feeling of Unlikeness between a vivid state of Will and a faint state of Will. On the other hand the bare consciousness of the *Ego* is a Relational Feeling of Unlikeness between a faint state of Will and a vivid state of Will. It may here be objected that although we have a vivid state of Will and a faint state of Will, and what is sometimes described as a shock of transition from one to the other, we are no nearer than before to the consciousness of a *Non-Ego*. This is quite true; we are farther away; we were never so far away before; we have now reached a position whence we can *see* this consciousness, whereas previously we could but *feel* it. It is the feeling of the relation between a vivid state of Will and a faint state of Will that constitutes the bare consciousness of a *Non-Ego;* the classification of that feeling of relation with feelings of relation in general does not constitute the consciousness of a *Non-Ego*. We cannot keep our cake and eat it. Nor does either Primary Feeling of itself constitute the consciousness we are analysing. Suppose I have a simple Relational Feeling of Sequence followed by another simple Relational Feeling of Sequence. These relational feelings may be such that my feeling of relation between them is what I call a Relational Feeling of Co-existence. Neither of the relational term-feelings alone is the feeling of Co-existence; nor is the feeling of Co-existence constituted by the mere occurrence of both, though both are necessary for its constitution. Similarly in the case before us. Neither a vivid nor a faint state of Will alone is enough to constitute the consciousness of a *Non-Ego;* the two together avail not a whit better; but the Relational Feeling between the two suffices. It may be well to add, for the purpose of reconciling those who hold that we are conscious of *Ego* and *Non-Ego* in the same moment of intuition, that there is established in my consciousness a feeling of relation between the two relational feelings constituting the consciousnesses of *Non-Ego* and *Ego*. This might be anticipated from whichever side these consciousnesses are regarded. Not only might we expect that if they perpetually alternate in the normal waking life, there must eventually be established

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a consciousness of the co-existence of *Ego* and *Non-Ego*; but the original Relational Feeling of Unlikeness is in one of its aspects a Relational Feeling of Sequence, and the continual recurrence of the similar and opposite simple relational feelings of sequence which in their other aspect constitute the consciousnesses of *Non-Ego* and *Ego* must itself lead to the establishment of the Relational Feeling of the Co-existence of *Ego* and *Non-Ego*.

No exact account of the origin of this Relational Feeling we have been tracing can be given. From our present point of view it may be said that following a first vivid feeling of Will comes a first feeling of sensation, which is followed by a faint feeling of Will, whereupon arises a relational feeling between the two Wills, and that here is the birth of our consciousness of a *Non-Ego*. But the actual beginning of experience is too vague for us to realise now in our highly differentiated conscious life, and any statements we might make concerning it can be looked upon as but the merest adumbrations of the process through which we have passed; Will and feeling of sensation in the earliest stages of experience cannot have had that separateness which they now display in the domain of introspective contemplation.

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II.—THE SCIENTIFIC CONCEPTION OF THE MEASUREMENT OF TIME.[1]

By E. Hawksley Rhodes.

That Time is possessed of quantity or magnitude, and therefore is in some sense measurable, may be said to form part of the common conception of it. Exact science assumes that time can be measured as accurately as space can; predicating equality of certain intervals and inequality of others. It holds, for instance, that the oscillation of the pendulum of a good clock divides time into equal intervals, and that the movement of a weathercock, as it veers to and fro in the open air, does not. But when asked for the grounds of this predication of equality or inequality, the statements of even the best authorities on the subject are most inconclusive, confused and unsatisfactory. It is not that such authorities have the slightest difficulty in pointing out classes of events which do, and others which do not, mark time off into equal intervals. But they seem unable to bring into the clear consciousness of abstract knowledge the difference that distinguishes these two species of events. Their case is like that of a man ignorant of geometry who should have put before him a number of plane quadrilateral figures of all kinds. Aware of a certain undefinable similarity existing between some of the figures and not between others, he might succeed in picking out from the whole mass all that were parallelograms, and yet be quite unable to form for himself a clear abstract conception of the difference which distinguishes the species parallelogram from the rest of the genus quadrilateral. A prevalent error regarding our knowledge of the measurement of time is the supposition that it is derived from a prior knowledge of the presence or absence of forces, or of the uniform action of more general causes; whereas, as I shall have further occasion to remark in the course of this paper, the possibility of measuring time is a condition prior to our knowledge of the presence or absence of forces or of the uniform action of causes.

It may perhaps be objected to the subject I have chosen for consideration that the question is a purely scientific one, and

[1] Read before the Aristotelian Society on June 1.

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of no interest to Philosophy. But the fundamental conceptions of Science must always have for Philosophy the deepest interest, as the investigation of their nature and origin cannot fail, in proportion to its success, to throw some light on the important, though difficult, philosophical problem of the nature and limits of knowledge in general. That the conception of the measurability of Time is a most fundamental one, not merely for so-called scientific, but, we might almost say, for all, knowledge, scarcely needs illustration. Until mankind had learnt to mark and count the divisions of time, knowledge, whether scientific or historical, was alike impossible; and, had they never acquired this art, they must have for ever remained sunk in the ignorance of barbarism, little, if at all, elevated above the beasts of the field. To understand the importance of this conception for exact science, it is only necessary to bear in mind that such science deals with the measurement of magnitudes of all kinds—heights, distances, angles, volumes, weights, densities, forces, and other quantities; that these magnitudes generally vary as time flows on; and that one of the problems of exact science is to determine the rates at which these magnitudes vary, in other words, to discover their velocities, to determine further whether these velocities are uniform or not, and, if not uniform, then to find out the rate at which these rates or velocities vary. Now the conception of *rate* presupposes the conception of a measurement of time, that is, the possibility of marking out lapses of time into equal intervals and the subdividing these equal intervals into equal subdivisions.

Measurement, it is scarcely necessary to observe, is the comparison of things in respect of their magnitude or quantity, and only such things as are conceived to have magnitude are also conceived as measurable. To measure a magnitude is to compare it with another of the same kind, with a view to determine whether the former is equal or unequal to the latter, and, if unequal, then to discover the ratio of inequality. Equality and inequality are special examples of the more general conceptions of likeness and difference, similarity and dissimilarity; equality being similarity of magnitude and inequality dissimilarity of the same. Spatial magnitude, or space conceived as limited by boundaries which we can, or possibly might, see or touch, in other words, by material boundaries, we measure in terms of itself; lengths being measured by some standard length, and so with areas, volumes, angles or any other determination of space. The variations of other kinds of quantities, degrees

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of heat, densities, weights, &c., are measured through some theory or hypothesis connecting them with the variations of some kind of spatial magnitude, which we measure by reference to some spatial standard, and from which we infer the relative magnitudes of the quantities we are seeking to determine. Now the term equality, when applied to spatial magnitudes, means simply that, when superimposed, the limits or boundaries of such magnitudes do, or might, coincide. To determine the equality or inequality of two straight rods, they are placed side by side, one pair of ends being adjusted till they coincide; and then simple inspection of the position of the other pair of ends serves to decide whether they are equal or not. If the magnitudes cannot be superimposed, then we have to fall back on some indirect method of determining their relative magnitudes, some of the methods of mathematics, which is nothing but the science of the indirect measurement of magnitudes. But whatever be the method employed for determining whether two spatial magnitudes are equal or not, what is meant by their equality is that their limits do, or might, coincide, and by their inequality that the limits of the one fall, or would fall, within the limits of the other. Thus when the area of a triangle is said to be equal to the area of a square, it is meant that the parts of the triangle or of the square might be so rearranged that their boundaries would coincide.

Now, in the case of contemporaneous events there is something very analogous to the coincidence of two spatial magnitudes; for when the beginnings and endings of those events coincide, as they fill the same lapse of time, they are said to be of equal duration, whereas if the limits of the one event fall within the limits of the other, the latter is said to be of longer duration than the former. When, however, the lengths of time occupied by events which are not contemporaneous have to be compared together, a difficulty arises which does not admit of the same easy solution as the difficulty of comparing together two spatial lengths that cannot be superimposed. To compare the lengths of two roads, both can be referred to the same material standard yard, which can be applied first to the one and then to the other road. But a standard event cannot be carried about and applied for the measurement of two other events. All events pass away with the lapses of time they occupy. Here, then, at the outset, arises a difficulty, when we seek to determine the relative lengths of events which are either not contemporaneous or only partially so.

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It will conduce to a clearer understanding of the nature of this difficulty if we refer to a practical method of measuring time and to the justifications alleged in support of it. Such a method is that of measuring time by the revolution of the earth on its axis. It is said that the earth revolves with uniform velocity on its axis, and that consequently equal intervals of time are those during which the earth revolves through equal angles. But whenever a body is said to move with uniform velocity, the question at once arises, how can it be told that any velocity is uniform unless we are first in possession of the means of measuring equal intervals of time. Attempts have been made to meet this difficulty by declaring that the earth in its rotation about its axis presents us with a case of motion in which the condition of not being compelled by force to alter its speed is fulfilled, or, at any rate, very nearly so indeed. But this is to put the cart before the horse, for our only means of discovering whether there exist or do not exist forces tending to alter the rate of revolution is by observing whether that rate is uniform or not; apart from such observation we could have no certainty of the non-existence of forces tending to alter that rate. Now such observation presupposes the possibility of measuring time.

All attempts at making Newton's First Law of Motion supply a method for defining equal intervals of time involve the fallacy of reasoning in a circle, besides labouring under the defect of trying to use the more obscure and difficult conception of force to elucidate the easier and simpler conception of time-measurement. The object of Newton's First Law was simply to act as a *caveat* against two inveterate errors: namely, first, that retardation of a body's velocity was not in every case to be considered as due to the action of force, it being erroneously believed that moving bodies had a natural tendency to come to rest of their own accord; and, secondly, that the deviation of a moving body from a straight path was not in every case to be considered as due to the action of force, it being mistakenly supposed that some bodies moved in circles of their own accord. Newton's Laws of Motion, and indeed the whole science of dynamics, dealing as it does with the motions of bodies, presuppose the possibility of the measurement of time; and the attempts of the expounders of this science to represent the measurement of time as derived from, and logically subordinate to, the general laws of dynamics, explain much of the obscurity in which the first principles of this science are enveloped. This obscurity is due to the efforts that are

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made to exhibit the science under a rigorously deductive form from a few highly abstract propositions, that is to say, propositions involving conceptions of a highly abstract nature, with scarcely any attempt to show from what perceptual material these highly abstract conceptions have been derived. Thus the science presents to the eye of an inquirer a most puzzling aspect. It seems to have no connexion with the world in which he finds himself, and never to have been derived therefrom. And yet, like every other branch of scientific, rational or abstract knowledge, the science of dynamics has been drawn from what first became known by sense-perception in the concrete. Its foundations rest upon observation and comparison of the phenomena of nature as disclosed to us through the senses. Its highly abstract and complex conceptions have been gradually elaborated by mankind in the course of vast ages from the perceptual material offered in the phenomena of the external world, and primitive man must have started with a less stock of material than is now possessed by the average Bushman or Hottentot. At the threshold of the science lies the conception of the measurement of time, and we must cast a glance at some of the ideas of perception, some of the concrete phenomena from which it has been derived, to understand aright the meaning of the term equality when applied to determinations of time, in other words, to *events*, and its difference from the same term when applied to determinations of space.

Time is cut into lengths for us by events, or, to speak more correctly, it is constituted for us by the succession of events. Events, considered as constituting determinations of time, and material bodies as constituting determinations of space, as, for example, distances, lines, angles, surfaces and so forth, present some remarkable similarities. To constitute the unity of an event or of a material body, either of them must be marked off from other events or bodies by discernible boundaries. Some perceptual change must mark the commencement of the event and some other its end, just as a body is circumscribed by its shape or figure. There is, too, something arbitrary in the unity of both. What for one purpose we may regard as a single body, we may for another purpose consider as made up of an aggregate of bodies, and what for one purpose we may consider as a single event, we may for a different purpose look upon as made up of a sum of events, succeeding each other within the limits of the single event. Bodies may present any degree of resemblance one to another, and so may events.

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The former may be so exactly alike as to be only numerically distinguishable, and so may the latter. What can be more like each other than each swing of a clock's pendulum or each vibration of a chronometer's balance-spring? As, too, some spatial determination of one body, its length for example, can be used to measure, in other words, to compare together, the spatial determinations of other bodies, so likewise the duration of some kind of event can be used to measure or compare together the durations of other events. For it is not time that we measure, but the duration of events, just as it is not space that we measure, but its material limitations.

Again, in both departments of measuring, a similar experience of the untrustworthiness of conclusions as to relative magnitude drawn from the immediate impressions of the senses, unaided by instruments of precision, and of the impossibility of arriving at any common agreement in conclusions so derived, has compelled mankind to invent such instruments. If the apparent heights and distances of objects differ so widely in consequence of a variety of circumstances affecting the observer at the time and position from which he views them, the apparent lengths of equal lapses of time differ no less widely in consequence of the different qualities and intensities of the feelings which may have been experienced in those intervals. One month may be passed in the ordinary, peaceful routine of everyday life, and the next in the midst of the novel, vivid and exciting scenes of a great campaign. Of how vastly greater length will the latter month appear than the former. The agonies of a painful suspense will lengthen out one hour into many, and the death-like repose of a trance passed in a state only just raised above the level of consciousness will dwindle down hours into moments. The greater or less intensity of the feelings that have filled it, lengthens out or shortens the perspective of an interval of time, as we look back upon it. We see, then, how indispensable was the invention of instruments of precision and the acceptance of common standards for measuring determinations whether of space or time, if success was to attend the efforts of men to unite their scattered sense-perceptions into the unified idea of one common objective world, and to co-ordinate and synchronise the changing succession of events which have constituted the experience in time of innumerable distinct individuals into the idea of one objective self-consistent history of that world.

Now, the accidental circumstance—accidental in the sense that we can see no reason why it might not have been other-

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wise—that bodies do not undergo rapid changes in their figure and magnitude has enabled us to embody in durable material a permanent record of the particular length or spatial magnitude which we wish to use as a standard for comparing together spatial magnitudes at different times and in different places. In like manner the discovery or construction of standards for the measurement of time depends upon the no less accidental circumstance that bodies have been found to repeat similar movements in uninterrupted succession, or have disclosed properties to the patient investigation of man, which have enabled him, through a skilful use of his sole executive faculty, that of altering the state of aggregation of matter, by putting the right sort and the right amount of matter into the proper relative positions, to create structures which automatically produce a continuous succession of events, each as like the other as one coin is to its fellow turned out of the same press, and not only produce them, but register the number produced. I refer, of course, to such instruments of precision as clocks and chronometers.

The oscillation of the pendulum of a clock and the vibration of the balance-spring of a chronometer are examples of events which are said to repeat themselves—recurrent events, as they are called. Such events form a very numerous and diversified class of the changes that are observed to take place in the world around us. As additional examples, we may mention the revolutions of the heavenly bodies, either on their axes or in their orbits, the recurrent phases of the moon, eclipses of the sun and moon, the ebb and flow of tides, the annual blossoming of plants or migrations of birds, the vibrations of stretched strings, the ticking of clocks, the hourly chiming of their bells, the beating of the heart, the rhythmical action of the lungs in breathing. These recurrent events may be apprehended by any of the organs of sense; for, though the examples adduced above appeal only to the organs of touch, sight and hearing, it is not difficult to imagine the recurrence of similar scents or flavours, events perceived through the organs of smell and taste. It is some similar feature or features in their perceptual contents, whatever be the organ or organs of sensation through which they are perceived, that makes us call events recurrent or say that they repeat themselves. Thus, in the series of recurrent events generally used for the measurement of time, the same bodies go through similar relative movements or are associated with the perception of a similar sound. In the case of the earth's

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daily revolution on its axis, the same fixed star is observed to cross at intervals the wire placed in the focus of the object-glass of the transit-instrument which the astronomer has carefully adjusted in the plane of the meridian of his observatory. The pendulum of a clock repeats the same movement relatively to the body of the clock, and so do the hands. The clock repeats at intervals the same ticking sound or the same sound of its hour bell.

Having thus indicated the perceptual features from which has been derived the conception of that great genus of events which we have called recurrent, we must now turn our attention to the two great species comprehended under that genus, with a view to determine the difference which distinguishes the one from the other. These two species of recurrent events are the isochronous and the an-isochronous, and the fact that the events in any series of the former class are of equal duration, occupy equal lapses or periods of time, while the latter do not, would usually be considered a sufficient account of the differentia between them. But we have further to ask what is meant by this term *equal* when applied to periods of time. As I have observed before, the term *equal*, when applied to determinations of space, refers to the coincidence of their limits or boundaries, determined either by direct superposition or juxtaposition, or by that indirect kind of superposition brought about by referring them to the same standard. But neither of these methods has either meaning or applicability to events happening at different times. If I say that a certain event that occurred last year was of equal duration with another event that happened this year, because both events synchronised with the same number of diurnal revolutions of our globe, then, as I am not referring the events to one and the same diurnal revolution, it is obvious the question might be asked, How do you know that these diurnal revolutions are of equal length, or else, what do you mean by the term *equal* thus applied? Now, it may be imagined that some clue to answering this question might be found if we were to take some single series of isochronous recurrent events (for example, the annual return of the sun to a given point in the sky), and some single series of an-isochronous recurrent events (for example, the periodical earthquakes that shake the south of Italy), and compare them together: that we should then detect in the one series a something not to be found in the other, a something the presence or absence of which made us call the one isochronous and the other an-isochronous; just as, on comparing one row of upright posts fixed in level ground with a

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second row fixed in like ground, and observing the tops of the former row to form an even, level line, and the tops of the latter an irregular line, we should, owing to the perceived difference in the character of these lines, call the former set of posts of equal height and the latter of unequal. But this would be a mistaken view. We could not detect any such difference in a series of isochronous events when compared with an an-isochronous series. The difference we are in search of does not disclose itself till we come to compare two or more independent series of contemporaneous isochronous events. We then discover between them a relation which does not hold good between different series of an-isochronous events, or between an isochronous and an an-isochronous series. When we have made clear the nature of this relation we shall, at the same time, have made clear the nature of the difference which distinguishes an isochronous series of recurrent events from an an-isochronous one.

Let us, then, take two independent series of contemporaneous isochronous events—a succession of revolutions of the earth on its axis, or sidereal days, and a succession of oscillations of the pendulum of a carefully-constructed astronomical clock. What relation do we find to hold between them? We find that each sidereal day contains the same multiple of pendulum-oscillations. Let us now take a third independent series of isochronous events contemporaneous with the former two series—the vibrations of the balance-wheel of a good chronometer, and we find that each sidereal day contains the same multiple of these vibrations, and, supposing we find 16 vibrations of the balance-wheel to coincide with 9 oscillations of the clock's pendulum, then, considering each successive 9 oscillations of the pendulum as a single event, each one of these events will contain the same multiple of vibrations of the chronometer's balance-wheel, namely 16. Taking, then, these three independent series of contemporaneous isochronous events, we see that each one of the successive events in any one of the series is the same numerical multiple, or measure of the contemporaneous successive events of the other two series. I have said that the separate series must each be independent of the other. That the chronometer-series is independent of the pendulum-series can easily be shown. Taking the sidereal day as the common standard of reference, I can alter the rate of vibration of the chronometer's balance-wheel without affecting the rate of oscillation of the pendulum, and *vice versâ*. An example of several series of recurrent events, in which each

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series is not independent of the other series, will be found in the chain of wheels of a clock. The successive revolutions of any one wheel constitute a series of recurrent events. Furthermore, the successive revolutions of any one wheel are always the same multiple, or the same measure, of the contemporaneous successive revolutions of the other wheels. Thus the interval of time occupied by the revolution of the wheel to which the little hand of the clock is attached is always coincident with the twelve intervals during which the wheel to which the big hand is attached has performed twelve revolutions. But these series of recurrent events are not independent. For, taking either the sidereal day or the vibrations of the balance-wheel of the chronometer as the standard of reference, if I increase or diminish the rate of revolution of any one of the wheels of the clock I proportionally increase or diminish the rates of revolution of all the wheels connected with it; and thus, though the successive revolutions of one wheel may constitute, with reference to the chronometer and sidereal day, an an-isochronous series of recurrent events, the contemporaneous revolutions of the other wheels connected with it will all the same continue the same multiples or measures of the former wheel's revolutions. No *a priori* rule can be laid down which could serve as a criterion for determining whether one series of recurrent events be independent of some other series.

A series, then, of recurrent events is considered to be isochronous, in other words, to mark time off into equal intervals, not because of some particular mark found in each one of its events, and not to be found in each one of the events of an an-isochronous series, nor because of some relation discoverable between the successive events of the isochronous series only; but because each one of its events is the same multiple or measure of the contemporaneous successive events of another and independent series of recurrent events, the latter series being at the same time determined as isochronous through holding a reciprocal relation to the former. Both series taken together constitute a scale for the measurement of time with two related sets of gradations, just as a rod subdivided into feet and inches does for the measurement of spatial length. If, then, the periods of revolution of planets around their primary and on their axes, the oscillations of the pendulums of clocks, or the vibrations of the balance-wheels of chronometers, the vibrations of stretched strings uttering the same musical note, and many other series of recurrent events, are called isochronous, or considered to mark time off into equal

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intervals, it is because the several series are independent each of the others, and stand in the above reciprocal relation to each other; and the nearer the approximation is to this reciprocal relation between independent series, the nearer is the approximation to equality in the intervals of time they mark off. Any two series of recurrent events between which this reciprocal relation is not found to hold are, one or both of them, an-isochronous. Or we may, if we like, express our meaning in somewhat different language. In a correlated system of two independent series of isochronous events, either of the series finds the ground of its isochronism, of the equality predicated of its individual units, in the other series, and reciprocally. If it be a correlated system of any number of such series, each several series finds the ground of its isochronism in the other series. Such correlated systems of series constitute a scale for the measurement of time, graduated into smaller and smaller subdivisions, as a straight rod subdivided into yards, feet, inches, tenths, &c., does for the measurement of spatial length.

To make our meaning still clearer, let us imagine an astronomer, on comparing the sidereal day and his clock together, to find the latter, one day, several minutes fast, another day, several minutes slow. His first conclusion would be that his clock had ceased to mark time isochronously. But suppose all other clocks and chronometers were found to show a similar irregularity when compared with the period of the earth's diurnal revolution, while, when compared with each other, they were found to maintain the same fixed proportions among the number of intervals into which they severally divided the same length of time, our astronomer would now ascribe the irregularity to the earth; he would draw the conclusion that it had ceased to revolve with uniform velocity on its axis, and would do his best to discover what could be the cause of the irregularity of motion that had so unexpectedly disclosed itself.

Nature and art, then, present to us a number of distinct and independent series of contemporaneous recurrent events, such that the longer events are always subdivided in the same proportion by the shorter, and the latter by those shorter still, and so on. Such a scheme of events constitutes a graduated scale for the division of time, just as miles, furlongs, yards, feet, inches do for spatial lengths, or degrees, minutes, seconds do for angular magnitudes; and, as two lines or two angles are equal when they both coincide with the same number of divisions of the spatial scale, so by analogy the lapses of time occupied by two non-contemporaneous

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events are said to be equal when they both have coincided with an equal number of the recurrent events which constitute the temporal scale. The continuity of time, too, is analogous to that of space; for, as the process of subdividing any given line or angle can ideally be carried on without limit, so the time occupied by any given event can be conceived as capable of subdivision without limit by events of briefer and briefer duration.

The foregoing remarks serve to show what is the nature of the measurement of time and how entirely independent it is of any scientific or dynamical theory, depending, as it does, upon the direct observation and comparison of recurrent events as they pass, apart from any speculation as to the forces or causes which produce them. All scientific theories, such, for example, as dynamics, that deal with changes taking place in time, take it for granted that time can be measured. The measurement of time is prior to such theories; they are based upon it, as one of their grounds; it is not based upon them. The very possibility of such a science as dynamics depends upon the existence of a correlated system of isochronous events. Such a science did not and could not originate until such a system of events had first been discovered. These events are some of the chief phenomena on which are based the concepts and principles of that science. Without the existence of these concrete facts such conceptions as those of velocity and acceleration, and such principles as Newton's Laws of Motion, could never have been arrived at; and if such correlated series of isochronous events were to cease to exist, the science of dynamics would be incapable of application to natural events, and would be unintelligible to a new generation of men unacquainted with such a system of events. As has been said before, it is not dynamical science that enables us to decide what events mark time off into equal intervals: the possibility of marking time off into equal intervals is presupposed by that science; and this possibility rests, as we have seen, entirely on the *a posteriori* grounds of observation and experiment. Nature, for all we can see to the contrary, might never have presented to our observation, nor the device of man have been able to contrive such correlated systems of isochronous events, and then the measurement of time would have been an impossibility and the exact sciences that rest upon it would have been non-existent.

This fundamental importance for exact science of such isochronous events throws so much light on the nature of such science, and thereby on the nature and limits

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of human knowledge in general, that it well deserves further illustration. Taking a so-called isochronous series, and a so-called an-isochronous series of events, let us ask ourselves this question: Why are the intervals of time occupied by each oscillation of a good clock's pendulum, to be preferred as units of time to the intervals which elapse between the successive commencement of the swings of a weathercock exposed to the winds of heaven? The number of the latter intervals can be imagined capable of registration, by means of some simple machinery, on a dial, just as well as the number of the former on the clock's dial. We certainly look upon the movements of a weathercock as it veers to and fro with every puff of wind, as the very type of capriciousness and irregularity, and yet, so long as we confine our attention to these two series of recurrent events, no ground can be discovered for preferring the one to the other. If it could be shown that the clock's unit of time possessed, while the weathercock's did not possess, that kind of equality which belongs to spatial magnitudes, that is, actual or potential coincidence of limits, this might be a ground of preference. But, as we have seen, no class of successive events can ever be shown to have this kind of equality. The ground of our preference clearly lies then in something external to either series. What this ground is has already been partially explained. The oscillations of the pendulum constitute one of those numerous series of recurrent events which stand to each other in the relation of numerical multiples or measures, a relation similar to that in which the larger and smaller sub-divisions of a straight rod used for linear measurement or of the graduated arc of a circle used for angular measurement stand to each other. This is a partial explanation of the nature of the ground of our preference. We must try and make it fuller and deeper.

Now, when we contrast the graduated arc of our circle or length of our measuring rod with a similar arc or rod divided at random, as we call it, we recognise that a rule, law, principle, uniformity, or form, has been imposed upon, or is present in, the former but not in the latter. And we recognise the presence of a similar rule, law, principle, uniformity or form in our correlated system of series of isochronous events —a law to which the oscillations of the clock's pendulum conform, but to which the movements of the weathercock no more conform than do the random subdivisions of a circular arc or straight rod. Magnitude or quantity can be made to conform to no principle or law more simple, less complex.

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By it the magnitude, whether duration of event, length of rod, or any other quantity, is conceived as the sum of homogeneous units, and each of these units is conceived as composed of the same number of subordinate homogeneous units, each again of the latter being also made up of an equal number of homogeneous units subordinate to the former, and so on without assignable limit. This simple and therefore easily apprehended law has been suggested to us, as we have seen, by the concrete events and objects given us in sense-perception, by our experience of the real world. It has its conditions in that reality: had that reality been different this law might never have disclosed itself to us. It has reference to that reality, and, so far as man can act upon and alter that reality, he often makes that reality conform to this law, as may be seen in his instruments of precision used for measuring.

But let us recur again to the oscillations of the clock's pendulum and the movements of the weathercock, in order to illustrate a profounder reason than the simple law of isochronism for preferring the former instrument to the latter as a time measurer. If the system of correlated series of isochronous events we have discovered ended with itself, and were of no further application; if the simple objective law it embodies stood alone (objective, I call it, in the sense of being perceived to be present in numerous classes of concrete events), then our knowledge, our general knowledge, which is nothing but such laws, forms, uniformities, rules and principles taken with a subjective reference, would be equally limited. But this correlated system, this graduated time-scale, does not end with itself. Its importance to us lies in this, that it can be made to serve as a lamp to guide us to the discovery of other and more complex laws or uniformities regulating the ever-changing magnitudes in the world around us, as an instrument for reducing to order that apparent chaos. It is capable of constituting a permanent basis of reference with which to bring all other changes into relation; their varying magnitudes can be expressed as functions of its time-units; and the fixed relations—the equations—established between it and them, and, through it, with each other, constitute the laws, principles, rules and uniformities that make up that portion of the exact sciences which deals with changing magnitudes. If I take any time-unit from a correlated system of isochronous recurrent events, in other words, from a time-scale, as, for example, the time of vibration of the balance-spring of an accurate chronometer, then I find the spaces traversed by a falling

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body can be determined by a uniform rule; whereas, if I take the interval between each swing of a weathercock as my time-unit I can discover no uniformity in the spaces traversed. The law of gravitation, that the acceleration of the attracted body is inversely as the square of its distance from the attracting body, holds for isochronous time-units, but not if the time-unit is determined by the motions of a weathercock. Taking the graduated time-scale, we arrive at the vast generalisation governing all transformations of energy. Taking the units served out to us by our weathercock, we can discover no uniformities, laws, principles or rules whatsoever; so that with reason is that instrument taken as the fitting symbol of all that is capricious and irregular.

These few instances, among an endless number, will serve to illustrate the necessity and immeasurable importance, for exact science, of a knowledge of the correlated systems of isochronous recurrent events disclosed to mankind after ages of patient observation of the intricate flux of changes for ever taking place, both in the world around and the heavens above. They serve to show that it is no matter of indifference, no matter for arbitrary assumption, what series of events should be defined as made up of equal time-units. On the contrary, if man was to extend the limits of his knowledge, it was of the utmost consequence that he should patiently observe, count and compare until he could select the right series, if he would not, by selecting the wrong series, incur the penalty of defeating the very object he had in view—I mean, the union of the manifold of phenomena under principle, law, rule or uniformity. In the course of this paper enough, I hope, has been said, not only to explain the difference between the nature of the measurement of time and space, but also to show how vastly more complicated a process the former is than the latter; how very simple a matter is the construction, preservation and application of a standard of length for the measurement of space when compared with the construction, preservation, and application of a standard of length for the measurement of time. To determine the scale for the measurement of time, and by means of it to measure time as it flies past, constitutes the most important function of the great central astronomical observatories established in all civilised countries. The accumulated records of past observations of the heavenly bodies preserved in such places, the wonderful and complicated instruments of precision required for taking such observations, and the accomplished and highly-trained body of scientific experts for the proper use of both are all neces-

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sary for the successful, the exact, performance of an operation which the unreflecting mind constantly assumes to be one of the simplest—the measurement of Time.

There is one more point connected with our subject to which I must make a very brief reference. New systems of geometry have been analytically developed by mathematicians not based upon the axioms of our common or Euclidean geometry—systems dealing with spaces of more than three dimensions or with spaces of various kinds of curvation. Such kinds of space may be called transcendental, as transcending what is given us in sensuous perception. But I am not aware that it has ever been pointed out that the analogy time bears to space can be shown to extend into the region of the transcendental. And yet after what has already been said on the subject of time-measurement, it is only necessary to suggest that worlds can be imagined to exist each with its own correlated system of isochronous events constituting its own measuring scale for time, and yet that, could some superior being grasp in one view these various time-scales as they divided the same lapse of time into intervals, he might find them either irregular and lawless relatively to each other, or capable of being related to each other under laws of any degree of complexity. In the former case the unity of nature, as considered to extend throughout the universe, would be non-existent. Each separate world would have its own distinct system of physical laws, incapable of connexion with the other systems. In the latter case the unity of nature would embrace a complexity that might exceed in any imaginable degree the complexity of the only nature with which we are acquainted, with its single system of correlated series of isochronous events.

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III.—THE SCIENCE OF HISTORY.

By J. Murray Macdonald.

The idea of Progress is the ruling thought of the modern world. There is no earnest thinker who is not influenced by it. It is the principle by which historians seek to systematise the facts with which they deal. It is the very backbone of science. It exercises a marked influence on practical politics. It penetrates every branch of general literature. It has even, of late years, begun to influence the thinking of theologians.

But this term "Progress," without further qualification, is a vague and misleading term, and one which has had a baleful influence on politics on the Continent, and which has been the occasion of much indecision in the conduct of affairs here in England. This arises from the fact that the term "Progress," unless strictly defined, means nothing more than change. It is without scope or goal, and has no standard by which to estimate change. The improved, more perfect state of things, towards which it professedly tends, is altogether undetermined. Is it possible to state what it is that constitutes this progressive life—what its end and aim is? Can we determine the whence and the whither of this great struggling human life whose deeds constitute what is called History? This is the question to which I shall attempt, in this paper, to give a very general answer.

I shall best pave the way for my answer by adverting briefly to the theory of life which has lately gained currency as the result of the discoveries of science. These discoveries have established the fact that this earth was at one time a molten mass, in some such state as the sun is at present; that this mass gradually cooled; that, as this process of cooling went on, life, in a perfectly simple, uniform type, showed itself; and that, from this primitive, uniform type, all higher grades of animal life have originated by a process of evolution, due to the continuous operation of purely physical causes. The attempt to account for the first form of life, on what are called physical principles, has failed. Darwin stated his belief that this primitive form was due, not to physical causes, but to the direct action of the Creator.

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Given, however, the simplest form of life, he held that science could account for all subsequent, more complex grades, without recourse to the idea of the special action of the Creator. He believed also that as the earliest forms of life have disappeared, and given place to other and higher forms, so, by a similar process of modification, those species of animal and plant life now existing will, in the far-off future, have given place to new and dominant species, that man, for example, will, in some immeasurably distant period, have disappeared from the face of the earth, and have been replaced by some species possessing higher corporeal and mental endowments. The conditions which determine the progress are purely casual ones. That is to say, the succession of animals might have been different from what it actually has been; the theory maintaining that there was no definite aim, no intelligent purpose underlying and determining the process of evolution. The course which the process has followed can now be determined; but so far as can be seen, it might have followed a different one. It is, for example, conceivable, according to the hypothesis, that such an animal as man might not have been evolved from the process at all; and, consequently, that thought, or the power of interpreting the process, might not have been evolved, and that thus the process might have remained blind to its own course. And it is because the process is thus a natural, aimless one, not one urging towards a definite end and aim in which it completely realises itself, that it is maintained that it will go on in the future as it has in the past. If it were not so, if the process were a predetermined one which reached its final stage of realisation in consciousness, then man, as the absolute summit of the life-structure, would be able to determine not merely the course of life but its aim, its essential meaning. He would be not merely the product of vast natural forces which find in him only partial realisation, but he would have risen above the temporary life of the individual, who forms but a link in the great process, who receives the spark of life from his progenitors, and who passes it on to his posterity; he would have risen above that existence in time which is blind to its origin and its end, and he would live in conscious union with that Will whose purpose in the world had now reached its final stage. But according to the theory this is not so. The origin of life is unknown, its course uncertain, and its end lost in the interminable future.

If this view of life be a true one, then a Science of History, in any true sense of the term, is impossible. Mr. Herbert

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Spencer indeed, though holding this view, does develop a theory of the course of human life, which, though it does not claim to be completely satisfactory, does claim to be final. In the early workings of conscious life, while mankind had amassed but a meagre knowledge of the phenomena of the world, and little or no knowledge at all of the laws that determine these phenomena, each phenomenon, as it presented itself, was not accounted for by the action of law, but was regarded as the manifestation of some power, external to the phenomenon itself, and capricious in its action. As knowledge grew, as phenomena began to group themselves in classes, these external, capricious powers gradually grew less in number, till in the Jewish and Christian religions the idea of law became so far predominant that all action was referred to one power, though that power was still a personal and capricious one, one whose relation to the world changed with the changing attitude of mankind towards it, depended, that is to say, on the conduct of men. And now, at last, the truth, towards which mankind has throughout the ages been slowly advancing, is fully recognised, and man's highest duty is declared to be the recognition of universal and immutable laws, and the regulation of human life in accordance with them. It is hardly necessary to say that, according to the theory, the laws which regulate human life in society and the state have always been determined by the interpretation given to natural phenomena,—that caprice and brute force have given place to law and justice contemporaneously with the elimination of caprice as the controlling power in nature.

On the presuppositions of this theory, I shall have something to say at a later stage of the discussion. In the meantime, what I desire to point out is, that Mr. Spencer's theory of life gains a ready acceptance because it is an easy and, at first sight, satisfactory explanation of that process of renunciation of the mere individual, capricious will, which is the necessary presupposition of action in social life, and does in reality constitute progress in history. But this process of renunciation, as he explains it, does not in truth constitute a progressive life; and this, not merely because progress implies a recognisable end, but because the renunciation is purely formal, that is, based upon the recognition of laws which are not only immutable and, in the last resort, inexplicable, but which have no essential relation with the life which they determine. The so-called progress is a merely formal adjustment of human life to inexplicable necessity; not progress towards a fuller, completer life, whose end is to

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realise itself not merely as the shadow of the necessary but as its substance and presupposition. I may express this otherwise. According to Mr. Spencer, the fabric of the world is formed of necessity and chance. Chance, at the beginning, determined the course of events in the world, though, by some means, this course, when once taken, is no longer the mere creature of chance but assumes fixity, and then, as the necessary element, co-operates with chance in determining the subsequent course. He thus ascribes to chance a reason of its own, by which it shapes the universe, and because of this ascription it is unnecessary for him to ascribe to reason itself an essential relation with the world; and human life, as conscious, thus becomes formal and aimless, empty and worthless.

This is the result of that interpretation of life which Mr. Spencer deduces from the recent discoveries of science, and which he maintains is final. Now, no theory of life can be satisfactory or complete which is not in essential harmony with the facts of science,—the facts, as distinguished from the theories deduced from these facts by scientific men. If then we accept as true those facts of life which the labours of scientific men have lately revealed; if we admit that the discoveries made in Geology and Biology force us to the conclusion that "the present conformation and composition of the earth's crust, the distribution of land and water, and the infinitely diversified forms of animals and plants which constitute its present population, are merely the final terms in an immense series of changes which have been brought about in the course of immeasurable time by the operation of causes similar to those which are at work at the present day";—if we admit this, are we also forced to the conclusion that the theory, of which Mr. Herbert Spencer is the most distinguished exponent, is an adequate explanation of the facts of human life in so far as human life is distinguished from mere animal life?

This question has been answered once for all by the late Professor Green; and those who desire a detailed answer are referred to his writings, more particularly to the series of articles which appeared in the *Contemporary Review* in 1877-8. I can give here only a brief summary of results.

Mr. Spencer discusses his theory of knowledge after discussing and accepting the theory of evolution as an adequate explanation of the world. He finds that, as the world has actually developed itself, each higher species of life succeeded the lower in such a way as to preclude the idea that any species had a conscious part in the production of any other

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species; in such way also as to destroy the idea that there was any conscious or final purpose determining the succession as a whole. The laws which now regulate the living world are the laws which have made that world what it is. In them that world is summed up and finds its explanation; and beyond them, to that common source which they suggest but do not reveal, none of the special forms of life can penetrate. Man therefore had as little to do with the production of the world as it existed before his appearance, as that pre-existent world had consciously to do with the production of man. His destiny is linked to the world as a whole by the same laws as link together the destinies of the lower species of life. But although his destiny is thus the same as the destiny of all living things, although he too is the creature of laws from dependence on whose action he cannot free himself, he is endowed with a power peculiar to himself, the power of consciousness, the power of obtaining a knowledge of the entire system of laws and of acting in conscious harmony with them.

Whence does this endowment spring? How is consciousness related to the world at large? The obvious answer, according to the theory, is that the relation is that of shadow to substance. The world is already, independently of consciousness, an ordered system, and the function of consciousness is to produce in itself a counterpart or reflection of this order. But how does this formal consciousness come into connexion with its material? By what means does it retain and compare those phenomena in which the laws are expressed? It has, to begin with, nothing peculiarly its own, nothing by which it could enable the individual subject to distinguish himself from the individual phenomena presented, and thus to characterise and retain them. It is, in fact, to begin with, not there at all; but appears only after the lapse of time, as the gradual result of the action of the world on the individual subject. What then is the character of this action, and how does the result spring from it? The sole gateway of communication between the individual and the world is feeling or sensation. But feelings or sensations are, in themselves, momentary and perishable. They come and go, and tell of nothing beyond themselves, because to do so would not only imply the something beyond, of which they do tell, but also another something to which each makes its report, something which must have been there from the beginning, and could not therefore have been the result of the operation of an external agent. But before feelings can become known, that is, marked off from each other by dis-

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tinct characteristics, become reports of individual objects, they must in some way be retained and compared, be in some way related to each other. How is this possible? The answer briefly is, that repetition leads to retention. Feelings by repetition gradually create tendencies towards retention which are hereditarily transmitted, and these tendencies gradually develop into complete consciousness. Thus, though there is no power of retention to begin with, yet repeated feelings, though there is nothing to which they can repeat themselves, create tendencies towards retention in a something which is not a feeling or a collection of feelings, and cannot be consciousness, because consciousness is the result of the retention. Here then we have assumed, and not accounted for, the relation of succession as that of which the experience generates the tendencies described. But feeling following feeling, *ad infinitum*, does not constitute a succession except as held together by a something else present equally to each of them; and this something else is, by the hypothesis, excluded from the succession. Thus the explanation of consciousness as the result of the transmission of tendencies which are created by the regular action on feeling of the systematised phenomena of the world is self-contradictory; for, in the absence of everything but the succession, the succession itself could not be.

I need not dwell upon the "unknowable source of knowledge," which Mr. Spencer's theory of consciousness forces upon him; nor need I dwell, further than I have already done, upon his account of the relation between the "great unknowable First Cause" and the religious consciousness, as that relation has manifested itself in various forms in history. If his theory of consciousness destroys the possibility of any knowledge, there is no need to dwell upon what it confessedly knows only as unknowable.

What I have thus far aimed at showing is that consciousness as explained by the doctrine of evolution is not what consciousness actually is; that it is not merely formal, but that the most elementary knowledge, the power on the part of consciousness to seize a single phenomenon, necessarily implies the power to distinguish between the conscious subject and the object of consciousness, and also the power to distinguish, however vaguely, between both subject and object and that totality or world of which they are mere parts. There could be no conscious subject without an object of consciousness, and there could be no object of consciousness unless there was implied, in however general a form, a totality of objects, of which this particular object was a

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single member. The relation here is a mutual one, no member being independent of the other, each having its reality not in itself but in the others and the whole.[1] In other words, the most elementary knowledge implies that threefold relation which all knowledge, the most complex as well as the most simple, only serves to bring into clearer light; and the attempt to trace the origin of knowledge beyond a consciousness so constituted can only be compared to an attempt to get outside the universe. According to this theory of consciousness, then, the history of mankind is the history of the effort on the part of the individual subjects to grasp, through a slowly acquired knowledge of the contents of the world, the character of that totality, of that Godhead, which is not only the source but also, from their nature, the substance of both. It is the progressive effort to realise, through knowledge, the unity of the divine and human, a unity which is expressed in all aspects of life, but which finds its highest realisation in religion.

In what remains of this paper I shall deal very briefly with—

(1) The characteristics of consciousness in so far as consciousness is distinguished from mere animal life.

(2) The means by which conscious life realises its end.

(3) The form in which the perfect conscious life embodies itself.

(1) Reason, the system of law which explains the phenomena of the world, is the very essence of the world; and it is in man alone, of all existent beings, that this reason becomes conscious; it is in him alone that reason urges towards self-knowledge. The lower animals are, like man, the outcome, the expression of the great process; but they neither know that they are so, nor seek to know it. Man is the only animal that seeks to know that life of which he, as a mere individual, is, like the lower animals, the momentary expression; but of which, as self-conscious, he is the eternal essence. In all lower grades of life, action takes place in a direct natural fashion: it is not mediated, *i.e.*, determined by a consciousness of its own character. This is the important point. Not only do all actions in the brute world take place according to reason, according to laws which are

[1] It seems hardly necessary to point out that the reality which the world had before the manifestation of consciousness in time was not a reality independent of consciousness in the sense in which Mr. Spencer maintains, but a reality which is truly understood only when seen in every stage to imply, and in the final stage to result in, consciousness or self-completion.

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capable of being determined by us; but the development of physical life is itself essentially rational, groups itself into species, and this reason, this process, for the first time becomes conscious of its own nature, its own character, in man. Man is, in one point of view, the outcome, the creature of this process of life; and in another point of view he is the conscious realisation of this process; and in this consciousness he becomes free. The brutes are not free: they do not know the character of their actions, they do not know the system, the purpose by which these actions are determined; they act in blind obedience to impulse. The destiny of man, on the other hand, is to realise his own freedom, his spiritual freedom, that freedom which springs from a knowledge of the system of which he is not only the highest expression but also, from the very nature of the process, the absolute substance: to realise his emptiness, his worthlessness, as a mere individual, but his essential infinite worth when he realises his oneness with the universal aim, with God made manifest. It is this destiny that is slowly accomplished in the course of history.

Thought then, spirit, as distinguished from the physical world, is nothing other than that world made conscious of its own purpose, its own end, made free; for spirit becomes free when confronted by no absolutely alien world, but by a world in which it has its source and of which it is the end and aim, by a world which is the expression of itself. Thus then the destiny of the world of thought, of spirit, and, since this is the substantial world, that towards which the physical world was continually urging and in which it reaches its full expression, the final cause of the world at large, is the consciousness of its own freedom on the part of spirit, and the realisation of that freedom, its application to the relations of actual, present life. This final aim is God's purpose with the world; but God is the absolutely perfect being, the source and end of all being, who can therefore will nothing other than Himself, His own will. The very nature of His will, that is His very nature itself, all-embracing and all-determining, is what we here call Freedom. To obtain this Freedom in its complete form, to realise the unity of the divine and human, is the object of the world's action, that which gives continuity to the life of man, and that which makes a Science of History possible.

This object is at first general and abstract. It has not received real, outward expression. All aims partake, at first, of this abstract, unreal character. In all stages, short of the complete realisation of freedom, men are not fully

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conscious of their own nature, of their relation to the world's purpose, to God. That full, complete consciousness came with Christianity. But even the precepts of Christianity were at first nothing more than abstract principles; and were so far untrue, unreal. According to these precepts, *e.g.*, all men are brothers, deriving their existence from the same source, subject to the same great law and government, and through this law and government made free. But this truth was at first in the air; it had not merged into actual existence. In proof of this I need merely note that slavery did not cease with the introduction of Christianity, nor was law made harmonious with freedom. This application of the principle to political relations, the thorough moulding and interpenetration of society by it, is identical with the process of history itself. The realisation of the end is thus a gradual one, a process has to be passed through, and this process constitutes history.

(2) By what means does this process realise its end? The end is the perfected life of man, the bringing of all men's actions into essential harmony with divine justice, the making all men one in and through the knowledge of the world's purpose. This end implies that there was at the beginning the very opposite of an essential unity of interest, that there was a collection of conflicting interests, that the springs of action were passions, private aims, the satisfaction of selfish desires. These passions, private aims, in the conflict which necessarily takes place between them, are the means for the development of freedom, of that life whose very essence is law and order. Thus, to adapt words of Darwin, from the war of Passion, no matter in what form it may display itself, the true, the complete life results. The process here is, in one aspect, a natural one—the mere conflict of the Passions, of the strictly individual interests, and of the evolution of those conditions best suited to social life. This is the only aspect of the process dwelt upon by Mr. Herbert Spencer. But the end, and the presupposition of the whole process, is the very opposite of natural; for the conflict develops not only better conditions of life, but the consciousness of the character of these conditions. It is important to comprehend this distinction. The destiny of man is to make the world of nature, of which he is the outcome, conscious of its own purport, and to transform his individual life in accordance with this consciousness,—to overcome the natural, unreflecting life of the individual, and to replace it by the spiritual, conscious life, which is essentially one and universal,

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—the presupposition of all. Man is no mere creature of conditions that are imposed from the outside by some alien, unknowable power, to which he blindly submits; for he is able not only to demonstrate in each condition its specific aim, but in the whole the grand object of the world. He is able to demonstrate that the conditions of knowledge are also the conditions of the world, of the known thing,—that neither could be without the other; to demonstrate that the conditions of knowledge do not appear for the first time in man, but are immanent in every grade of the world, but know themselves as essential conditions only in consciousness. He is able, in a word, to demonstrate that Thought, the essential, in its threefold relation, is not only the outcome of the world's development, but its presupposition. Man, therefore, is free, not in spite of, but in and through the conditions of life. The conditions are the realisation of the complete life.

I cannot pause here to show the unthinking character of the conception of God, as an empty, unconditioned something, entertained by Mr. Spencer. I merely remark that a God who did not necessarily manifest himself, could not be the source or end of the universe, but must be an empty abstraction, a fiction produced by an incomplete theory. He is the source and aim of conditioned life, and in this conditioned life, therefore, he is free. Beyond conditioned life it is as impossible for God as it is for thought to pass. To the level of this freedom, to the knowledge of the source and aim of the world, to the knowledge that all things work together for one end, to the full enjoyment of sonship in the Father, it is the destiny of man to rise. Summing this up, we find that human life is not merely that natural adjustment to the conditions of general life, which is conveyed in the phrase "Survival of the Fittest"; but is that adjustment which through consciousness adapts itself to the end.

(3) I now pass to the third point: What is the object to be realised by these means, *i.e.*, what is the form it assumes in the realm of reality? It is in human knowledge and volition that Freedom, the end and aim of life, attains positive, conscious existence. Here the individual will in its consciousness of the essential, divine life, in its consciousness of the purpose of all existence, has itself essential existence. This essential existence is the union of the individual will with the divine will, the divine purpose; and this union finds its highest expression in the State. Whenever men, through the natural conflict of interest, pass out of the

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primitive barbaric condition, and form for themselves a State, that conflict has been, so far, overcome, and a certain unity of interest, which expresses itself in Religion, in Law, Morality, Government, has been established. The State then, with its laws and institutions, its government and morality, is that form of reality in which the individual has and enjoys his freedom. It is the actually existing realised moral life; for it is the unity of the universal essential will with that of the individual. The individual, living in this unity, has a moral life, possesses a value, that consists in this substantiality alone. It is the very object of the State that what is essential, what is in harmony with the great purpose of the world, in the practical activity of men, should be duly recognised, that it should have a manifest existence and be able to maintain its position. In the history of the world only those peoples can come under our notice which form a State. For it must be understood that the State alone is the realisation of freedom, *i.e.*, of the absolute final aim which determines the course of History. It must further be understood that all the worth which the individual possesses, all spiritual reality, he possesses only through the State. For his spiritual reality consists in this, that his highest life, which is one with the aim of the world, possesses for him, not a merely abstract empty existence, but a real outward existence in the world. It is only in the full knowledge of this existing real life that he becomes fully free, fully conscious. It is only through this real existence that he becomes a partaker of morality, of a just and moral social life. The State is the divine idea as it exists on earth. We have in it, therefore, the object of history in a more definite shape than before: that in which freedom obtains real existence. For law is the reality of conscious life, volition in its true form. Only that will which obeys law is free; for, in obeying law, it obeys that which expresses its own nature and aim, and so is free. Law has necessary existence as being the reality and substance of things, the conscious expression of the divine purpose; and we are free in recognising it as law and following it as the substance of our own being. The divine will and the will of the individual are then reconciled, and present one identical, homogeneous whole.

The State then is the manifestation of human will and its freedom. It is to the State therefore that change in the aspect of history indissolubly attaches itself; and the successive stages by which spiritual freedom, the end, is realised,

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manifest themselves in history as distinct political principles, distinct forms of State-life.

We have thus far established two elemental considerations: first, the idea of freedom as the absolute and final aim; second, the means for realising it, *i.e.*, the subjective side of knowledge and will with its life, movement and activity. We then recognised the State as the moral whole and reality of freedom, and consequently as the objective unity of these two elements. The State is, therefore, the basis and centre of the other and concrete elements of the life of a people, of Art, of Law, of Morals, of Religion, of Science. All the activity of Spirit has only this object, the becoming conscious of this union, *i.e.*, of its own freedom. Among the forms of this conscious union, Religion occupies the highest place. Religion is, in a special sense, that form in which man expresses his oneness with God; but all manifestations of life, in so far as they are realisations of freedom, also show forth this unity. In Religion, spirit, rising above the limitations of mere secular existence, becomes conscious of the absolute Spirit, and in this consciousness of the self-existent being renounces its merely individual interest. With this self-renunciation, whose aim is to obtain freedom, true life begins. I have said that Morality is the identity of the individual will with the will of God. Now the mind must give itself an express consciousness of this identity; and the focus of this knowledge is Religion. Art and Science, when truly seen, are only various aspects and forms of the same substantial being. Religion is the form in which a nation gives itself the definition of what it regards as the true, that which it regards as the explanation of existence. The conception of God, therefore, constitutes the general basis of a people's character. In this aspect Religion stands in the closest connexion with the political principle. All religions realise, in a more or less complete degree, the relation between the divine purpose and human life, the principle of freedom. But full freedom can exist only where the individual is recognised as having his positive and real existence in the universal aim; where the actions of the individual are sanctioned not by the will of another individual, nor by any compact or arrangement between individuals, but by Religion, by the very constitution of existence. This means that the practical work of the individual has not in itself that absolute validity, that absolute claim to recognition, to which even kings and governors must bow, except in so far as the principle that pervades it receives absolute validity; which it cannot have unless it is recognised as the definite manifesta-

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tion, the phenomenal existence, of that divine spirit which constitutes freedom. The State is thus always more than a mere collection of individuals; because it is the realisation of that freedom to which the individual must conform himself in order to become free. It is this that explains the saying that the State is based on Religion. The form of Religion decides the form of the State and its constitution. The latter actually originated in the particular religion adopted by the nation; so that, in fact, the Chinese, the Hindoo, the Persian, the Egyptian, the Athenian and the Roman States were possible only in connexion with the peculiar form of religion existing among these peoples; just as a Catholic State has a spirit and a constitution different from that of a Protestant one. I may illustrate this remark by noticing the folly of pretending to invent and carry out political institutions independently of religion. The history of France during the present century furnishes an example. That country is Catholic, and the Catholic confession, although sharing the Christian name with the Protestant, does not concede to the State an inherent justice and morality, a right independent of the will of any individual or class of individuals, a concession which, in the Protestant principle, is fundamental. Roman Catholicism and constitutional government are absolutely incompatible; and the attempt to build up a constitution uninfluenced by any religion, as France will be forced to do, so long as it remains Catholic, can produce only an absolute unrest. A political revolution can obtain stability only if it is the result of a religious reformation, of a distinct advance in the conception of freedom.

Only in connexion then with a particular religion can a particular constitution exist. From the fact that in Religion all distinction of person disappears, that in it all men become one, it follows that each particular nation having, for the basis of its life, its own conception of the divine, is to be treated as only one individual in the process of universal history. For that history is the exhibition of the divine absolute development of spirit in its highest forms, that gradation by which it reaches the perfect life in God. The forms which these gradations assume are the characteristic "National Spirits" of history, the peculiar tenor of their moral life, their government, their art, religion and science. To realise these grades is the boundless impulse of conscious life—the goal of its irresistible urging.

One word, in conclusion, in reference to the course of the world's history. Each people that is forming itself into a

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State does so on the basis of religion, on the basis of its own conception of the relation between the world and the divine, between the life of the individual and that universal life, which is its presupposition and aim. It is its religion that forms the distinctive characteristic of a people. It is this alone which takes the lead in all the deeds and tendencies of that people, and which is occupied in realising itself, in making its real life correspond with its idea of the divine. This harmony each people is destined to accomplish for itself; but its accomplishment is at the same time its dissolution as a historical people, and the rise of a new religion, another world-historical people, another epoch of universal history. This transition and connexion leads us to the idea and connexion of the whole, the idea of the world's history as such. To comprehend the thought involved in this transition, the study of history itself is necessary. The fundamental necessity of the transition lies in the fact that national activity ceases when the religion which it embodies reaches its full realisation in life, when the object of all its endeavours is accomplished. When this is reached the activity displayed by the spirit of the people is no longer needed; it has its desire; and the bond of union, which implies combined exertion for some object not fully realised, disappears. The contradiction between its inner aim and life and its actual being is removed; and what had been its aim becomes, as it were, the property of the individual. Enriched by this spirit—the final result of the labours of the nation—the individual assumes an attitude of superiority, of criticism, towards the laws and institutions by which the national endeavours had been guided; and private interest becomes predominant. In order that a truly universal interest may again arise, a principle of a new order, a new national spirit, must show itself. This is the soul, the essential consideration in the scientific comprehension of History.

The conclusion of the whole matter is this, that the History of the World aims at the realisation of a complete harmony between man and God, the realisation, through a painful process of self-conflict and self-conquest, of that freedom, which is the same in spirit as the love taught by Christ, the realisation of a State in which the interest of each will be the interest of all, and the interest of all the interest of each; and it is in the light of this aim that all progress in history must be interpreted. The true believer in the ultimate complete realisation of a kingdom of Christ on this earth does not confine his vision to the future, but recognises the development in the past and the essential worth of the present.

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IV.—SPACE AND TOUCH, II.[1]

By Dr. EDMUND MONTGOMERY.

V.

WHETHER geometrical truths rest on experience conveyed through the ordinary sensory channels, or whether they originate transcendentally through purely mental processes or through an intuitive recognition of eternal relations—are questions that have been much discussed of late. Indeed it is not difficult to apprehend that the validity of Experientialism on the one side, and of Transcendentalism on the other, is strictly dependent on the decision here arrived at. If it can be shown that geometrical constructions—through complications of which all spatial forms whatever are producible—may be mentally fashioned without the aid of immediate or remembered sensorial impressions, then extreme Transcendentalism has an easy task. For the secondary qualities of so-called things—their touch, colour, sound, taste and smell—have long been recognised as truly mental possessions; which renders it impossible for them to constitute at the same time properties of extra-mental existents. Now, if the spatial forms, in which these secondary qualities naturally seem to inhere, are themselves spontaneous products of the mind, it is obvious that the whole object with all its qualities, primary and secondary, must be mentally originated. And if the whole make-up of spatial objects is thus originated, then their changes are of necessity likewise operated by purely mental functions.

Thus would mind, even such mind as we have, be established as creator of all the universe we perceive—that is, if mind were really competent, by its own spontaneous powers, to construct spatial forms. A geometry produced transcendentally by mental synthesis implies the fashioning and endowment of the entire content of consciousness by the same agency and from the same source.

Though it must be admitted that all perception, and therewith everything in perceptual appearance, is truly mental, our practical sense strenuously opposes the conclusion that such mental appearances are transcendentally *effected*, that

[1] Continued from MIND XXXVIII.

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they are in verity spontaneously produced by something within us which can rightly be called a mental energy. We are too well aware, not only during the realisation of secondary qualities, but also during the formation of the particular shapes recognised in actual perception, that it is something not belonging to our own mind, something in existence besides ourselves, which is persistently coercing us. Our most fundamental scientific classification is based on this conviction of two entirely distinct spheres of existence, the one a world of conscious realisation, the other a world of extraneous, sense-compelling powers.

While consciousness itself is studied by psychological science, it is the nature of the extra-mental but mind-coercing existence or existences that physical science seeks to investigate. Evidently we can arrive at conclusions concerning the nature of extra-mental existences only by investigating the manner and order in which they awaken conscious states in us. But conscious states thus awakened form, as such, also part of the subject-matter of Psychology. And as we find ourselves capable of utilising at will the agency of special extra-mental existents for the purpose of awakening definite conscious states, we are in a position to study these conscious states by means of a voluntary handling of the particular powers which arouse them.

Extra-mental powers, when awakening our perception under the same conditions, range themselves naturally in two distinct systems. The one of these perceptual complexes we call our organism; the other we name the outer world. To a spectator the organism of another subject constitutes in all respects just as much part of the physical world as any other perceivable object. But to the subject to whom the organism particularly belongs, this special physical object, besides forming like other objects part of his perceivable physical world, stands in many other most intimate and quite specific relations to his consciousness.

It is now very generally admitted that this consciousness of ours is never awakened without a definite disturbance taking place concomitantly in our so-called organism, which is itself perceivable as a physical object; and that definite varieties of such disturbance correspond to definite varieties of conscious states. We can experimentally convince ourselves that definite conscious states are awakened by the influence of definite extra-mental powers, and that the immediate effect of such outside powers on our individuality consists in a specific commotion within our organism perceivable by an observer. Thereupon, often in

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a measurable time, the conscious effect arises in our mind. Now, as the physical commotion in the organism manifestly precedes the mental effect in the bearer of the organism, it is fair to conclude that all mental states are really awakened and not merely accompanied by the specific commotion perceivable as a definite molecular activity by an observer. Every conscious state can therefore be legitimately regarded as awakened either indirectly by powers outside the organism, or directly by extra-mental powers constituting the organic individuality itself.

To the growing recognition of these uniform relations between mind and body is due the reconciliation of philosophy and science now in progress. In England genuine sensory impressions and physiological energies had to come to the rescue of the associative powers of pure ideas, in order to allow philosophers to regain a hold on the world we actually live in. And in Germany the scientific vagaries of the "Naturphilosophie," as well as the philosophical crudities of materialistic science, gradually gave way before the demonstration of the rigorously dependent, yet thoroughly mental, outcome of specific physiological energies definitely stimulated.

Prof. v. Helmholtz, by his classical psychophysical investigations and the philosophical conclusions connected therewith, has conduced more than any other single person to this reunion of science and philosophy. He is quite ready to concede that the cause of sensorial awakenings is hypothetical in its nature, but he maintains that, whatever that cause may be, it is not inherent in our own mind, and is always operative in geometrical constructions. Even granted that space itself may be an original mental form, its geometrical specifications are nevertheless experiential. They are, according to him, compelled by powers not under our own control. A line, straight or curved, or the geometrical relation of a number of points, is a spatial disposition experienced by actual presentation to touch or sight, not something brought into existence by spontaneous mental creation. In geometry we are dealing with actual sensorial impressions, and not with synthetical actions of pure thought. What we know of spatial relations, he further concludes, we have learnt through experience, and it is due to the peculiar nature of this experience that our space-perception is fashioned as it is. A different experience, one, for instance, derived only from impressions emanating altogether from a surface, would yield a space-perception of but two dimensions; and from possible data we are able

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consistently to build up a number of differently constituted spaces. Their realisation in perception would be only a matter of practice. The most we can assert regarding our relation to the special influences surrounding us and compelling our space-perception, is that they must be so composed as to induce us to form our particular space of three dimensions.

This reasoning, based as it is on positive investigation and clear conception, must be allowed to have great force, especially when contrasted with the teachings of Transcendentalism on the same subject. To candid reflection it must ever remain unintelligible how a purely mental activity, without the assistance of even remembered experiential data, can be competent to create geometrical relations; how thought, unaided by an experientially fertilised imagination, can at all avail by a spontaneous activity of its own to introduce into the blank form of space any kind of geometrical construction.

Nevertheless, on close examination, it cannot be denied—in opposition to Prof. Helmholtz and all those who with him seek to ground geometrical truths on sensorial impressions awakened by foreign agents, and in spite of a seeming agreement with Transcendentalism — that the realisation of spatial relations is in truth independent of outside compulsion, like our space-perception itself. This latter we have found, on careful scrutiny, to be an essentially subjective experience, coinciding with objective experience through an organically pre-established harmony.

Prof. v. Helmholtz himself states with great precision the conditions that would have to be fulfilled for the construction of a geometry independent of outside influences. He says, and every sentence of the statement deserves to be well pondered—

"The whole of Euclid's geometry can be derived from the formula which determines the distance of two points as a function of their rectangular co-ordinates. Now, if we assume that the intensity of a psychical effect, whose equality appears in perception as an equality in the distance of two points, is dependent on any three functions of the topogenous moments of each point, in the same manner as the distance in Euclidean space is dependent on the three co-ordinates of each of its points; then the system of pure geometry of such a consciousness would conform to the axioms of Euclid, however the topogenous moments of the world of reality and their physical equivalence might be constituted. It is clear that, in this case also, the coincidence between the psychical and the physical equivalence of the spatial magnitudes could not be deduced solely from the form of perceptual intuition. And if coincidence were actually to disclose itself, then it would be due to a law of nature, or, as I have expressed it in my popular lectures, to a pre-established harmony between the world of

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perception and the world of reality" (*Thatsachen in der Wahrnehmung*, App. III.; *cf.* the same author's second article, "The Origin and Meaning of Geometrical Axioms," in MIND X., pp. 222 ff.).

Here Prof. v. Helmholtz, with a keen insight into the conditions requisite for the fashioning of a mental geometry, unaided by the physical facts of the world of reality, has, as before hinted, given an almost correct description of what actually occurs as a specific energy of our nerve-system during the tactile specifications of our general spatial feeling. But, led by his own theory of space, founded chiefly on the experience of visual surface-dimensions, whose "topogenous" moments are invariably aroused by outside existents, he has overlooked the peculiarity of tactile space-sensation, and, in conformity with Transcendentalists, has assumed that, if the geometrical relation of two points could indeed be recognised by an immediate psychical act, then we should have a genuine transcendental geometry, a geometry created by spontaneous functions of the mind, and standing in no direct relation whatever to the physical geometry applicable to the "topogenous" moments given or rather enforced from some source outside ourselves. What he calls the world of reality, in contradistinction to a psychical world intuitively arising, is emphatically the sphere of compulsion *ab extra*, the real subsistence of causative influences independent of our own being, whose orderly effects are the exact specifications, "topogenous" and "hylogenous," localising and qualifying, of our actual perception.

Had Prof. v. Helmholtz chosen to direct his attention to tactile space with only half the ability with which he has dwelt on visual space, he would soon have detected that the "topogenous" moments of tactile space may be voluntarily presented to our perception, or rather voluntarily awakened therein, and that they are, moreover, *immediately* perceived as standing in a definite geometrical relation to our focus of apperception. I feel as specific "topogenous" moments in an act of immediate sensation, or rather perception, the exact position of what, through the experience of sight and objective touch, I know to be my great toe. Here the psychical realisation of distance and position is certainly immediate. I directly perceive the sensation just so much below, so much in front, and so much to the left of my apperceptive focus. The definite place in space thus perceived by me as a peculiar sensation, and my apperceptive focus, from which mentally that place is perceived, are two distinct spatial points immediately cognised, and standing in a rigorously fixed relation to each other. They are de-

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terminate "topogenous" specifications of my general space-consciousness. And with this single mental experience, unfertilised by influences extraneous to the felt positions, all essential geometrical relations are given.

The possibility of establishing on the same intuitive basis a complete geometry is afforded in the fact that, through the instrumentality of the "topogenous" moments awakened by the immediate sensation of the position of any of our movable organs, our finger-tip for instance, we can at will make any specific determinations that consist with our potential space-consciousness. Whatever shapes may possibly be constructed in space, we can ourselves spontaneously produce their "topogenous" moments, by means of the strictly localised sensations which follow and duplicate subjectively the objective tracings of our voluntary moving organs. True, the spatial coincidence of such immediate sensorial perceptions with the objectively ascertainable position of the organs with which they are connected and whose functions they really constitute, has to be looked upon as accomplished by a pre-established harmony; but it is one organically evolved, and not any kind of two-clock-arrangement.

How entirely distinct, and yet intimately connected, the two coinciding aspects of space-relations actually are may be easily realised. I close my eyes and stretch out tightly one of my forefingers. Directly I feel, without the least help from remembered touch or sight, a complex of localised sensations which I know to occupy the exact position of what, by touch or sight, I might objectively ascertain to be my tangible and visible finger. I stretch out my other forefinger, and am aware of its existence and position in the same manner. Thereupon I set about exploring my left forefinger with my right forefinger. Instantly the mere contact effects a magical transmutation, nay, a veritable transsubstantiation. My right forefinger no longer feels itself, but, with utmost distinctness, it feels—the left forefinger.

If there is in nature one fact more marvellous than another, surely it is here before us. The very same felt positions which a moment before revealed to me most distinctly the existence of my right forefinger, now reveal to me with the same certainty the existence of my left forefinger. To bring about this complete metamorphosis of perception and recognition, nothing has occurred in the exciting conditions but a slight modification of surface-stimulation. The qualitative sensorial potentialities and the sense of resistance have been awakened in a specific manner, and this has sufficed to trans-

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form the feeling of the positions and peculiar intrinsic qualities of the one finger into a feeling of the positions and peculiar extrinsic qualities of the other finger. The whole of this sudden objectifying and externalising change has happened exclusively in the tract of the exploring finger, for, instead of the felt finger, an imitation in wax or india-rubber might as well be substituted.

It is with touches thus amazingly subtle and positive that nature elicits from us the objective figurations of our mind. They are clearly only definitely induced modifications of our own individuality. The self-feeling of our organised being has in its specific qualifications, through attunement to the surrounding world, been rendered significative of all its multifarious bearings upon us. Thus the geometry awakened through immediate topogenous sensations, finds itself in correspondence with the geometry awakened by the space-determining influences inherent in outside existents.

Qualitative or "hylogenous" specifications are, during actual perception, normally aroused by specific stimuli extraneous to the stimulated organs. This is the case also when they are being aroused by powers forming part of our individuality, as, for instance, when, by touch or sight, we are exploring some region of our own organism.

Spatial or "topogenous" specifications, on the other hand, may be aroused as immediate sensations without the aid of extraneous stimulation, solely by means of the self-feeling of our movable organs. The very line traced by a finger and subjectively or immediately felt as a definite continuity of positions originating from within, is, when traced by the same finger in contact with some outside body, felt as the same continuity of positions, but this time plainly as induced from outside.

Let it be once more repeated that it is altogether due to pre-established harmony that definite configurations of "topogenous" moments, induced through the voluntary and self-felt action of our own members, may also be forcibly induced from outside. But it is obvious that the geometrical specifications, since they are really capable of being subjectively or immediately presented to perception by means of faculties dwelling within ourselves, cannot rightly be regarded as primarily dependent on the nature of extraneous existences.

The positions of our sensory surface, together with certain internal qualitative differences giving rise to a distinctive cognition of its sundry parts, are immediately felt by us, while the specific modifications of this self-feeling are

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experienced as appertaining to existences beyond our skin. This detaching from ourselves of the compulsory sensations, which build up the outer world in perception, is greatly aided by a peculiarity of our visual organ. Unlike what takes place with tactile sensibility, the sensory terminations of our seeing surface do not awaken any localised and specific self-feeling. The retina is not itself represented in consciousness by a subjective awakening of "topogenous" and "hylogenous" energies. These are, however, aroused with extreme readiness, in its case, by objective conditions. It has often been said that the eye sees everything, only not itself. It cannot be maintained in the same way that the finger feels everything, only not itself. This physiological peculiarity of the eye constitutes it pre-eminently an objective sense, which means really nothing more than that, "topogenously" and "hylogenously," it is in its most essential sensory region exclusively stimulated from outside, reacting in such a manner as to arouse corresponding spatial and qualitative specifications in our potential consciousness.

Here it may as well at once be added that, by means of visual "topogenous" specifications, the identical space-consciousness is awakened, which otherwise, and more directly, is also awakened by tactile specifications. The eye is a movable organ, with a definite spatial reach, like the arm or the hand, realising specifications of one and the same individual space-perception. Visual phenomena stand, indeed, to a great extent only as signs for tactile possibilities, but not as Berkeley thought, because sight is altogether trained on the experiences of touch; rather, because visual stimulation awakens centrally the same specifically established energies that are also awakened by tactile stimulation.

The subjectively organised and volitional priority of spatial determinations or geometrical relations evinces itself, even in practical life, in the familiar fact that it is we ourselves who, in our measurements and constructions, usually impose upon nature fundamental geometrical relations, and that we feel rather surprised when we find simple geometrical relations obtaining among natural objects. No special experience, no kind of specific outside stimulation continued all through individual life, could make us realise a space essentially different from our own. In order to establish a mental correspondence with extraneous influences compelling a different space-perception, our whole organisation, from periphery to centre, would have to be

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radically transformed. We should then be completely different beings, realising a completely different world.

Analytical processes, logical and mathematical, rest on identity. But as the realising potentialities of our own personality constitute the veritable medium of all cognition, the principal conditions of this identity are inherent in our own modes of perception and conception. It is, therefore, indispensable that the exact relation of outside existents and their combinations to these our modes of cognition, should be correctly implied in logical premisses and mathematical statements. Otherwise, however correctly our analytical evolutions may be carried on, the verification of their results, which is the realisation of their actuality by means of our own modes of cognition, could not be effected, and such analytical results would, therefore, possess no value for our understanding of reality.

Geometry is certainly not transcendentally constructed by spontaneous mental action. It has been sufficiently proved that its "topogenous" moments are always awakened in consciousness by extra-mental powers. But certain of these extra-mental powers, belonging to our own organic individuality, are so peculiarly related to our mind as to awaken immediate "topogenous" sensations, and it is this fundamental organic capacity that renders spatial determinations independent of extraneous or so-called realistic stimulation.[1]

VI.

Berkeley's *Theory of Vision* is the veritable historical starting-point of psychophysical investigation. Nominalistic Idealism, its direct offshoot, resulted from the erroneous subsumption of the extensive qualities of the objective aspect under the scholastic notion of a purely intensive mind. Extension, which by Descartes and his followers had been declared the fundamental property of an extra-mental world, became now sublimated into a mental phenomenon experienced by a perceiving soul. But as everything mental had—in conformity with philosophic prejudice—to be simple and indivisible, Extension with its manifold

[1] In my criticism of the Kantian theory of knowledge (*Die Kantsche Erkenntnisslehre widerlegt vom Standpunkte der Empirie*, München, 1871), I have in a chapter entitled "Das *a posteriori* Element in der Mathematischen Synthese" advanced an explanation of geometrical construction in essential agreement with the one here given. Only, at that time, I vaguely ascribed to muscular sensations what I now know to be accomplished by directly felt positions not dependent on sensations of movement.

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parts could not possibly be admitted to constitute an original affection of our indiscerptible inner Self. It had, consequently, to be made up of an aggregation or combination of some of the soul's intensive states. And here the inwardly felt sweep of a moving limb, consisting of nothing but a number of successive instants in consciousness, and yet tracing objectively veritable Extension, seemed to afford a ready clue for the mental synthesis of outspread Space from a mere succession of intensive sensations.

The mistake of trying to reduce the primary qualities, and with them the perception of the entire physical world, inclusive of our own physiological individuality, to a mere succession of unextended ideas, had further the immediate effect of rendering wholly inscrutable not only the observed object, but also the observing subject. For in a universe dissolved into a bare sequence of unextended ideas, our own consolidated personality utterly vanished.

A systematic world-construction from agglutinated particles of evanescent, though revivable, feelings has been zealously practised in England by the Association-philosophy. This very successful mode of interpretation, in order to gain a solid foundation for its building-material, the elementary ideas, had however to introduce into its operations as much of our physiological individuality as would serve its purposes. When without this, it tries to derive all knowledge from an analysis of mental phenomena, followed by a purely mental synthesis of the elements arrived at by such an introspective analysis, it labours under a twofold psychophysical misconception.

First it ignores the fact that the causative powers underlying the objective aspect, the "permanent possibilities of sensation" compelling the specific arrangement of mental elements, are always represented as definite perceptual complexes during introspective investigation, attesting their coercing influence on sensorial grouping by the very presence in mind of the solid objects that have been forcibly shaped by them, and which, in their absence, remain as their effective signs. Now, as the veritable powers which have established the definite bonds between sensorial affections are themselves extra-mental, it is not likely that we should be able exhaustively to study the laws of perceptual combination by mere mental operations, unaided by experimental reference to the permanent source of stimulation and union which they represent. Who indeed finds himself ever thinking of feelings of touch without also calling into mind the organ of touch together with some

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touched object, or sets about invoking normal muscular feelings as perceptual building-material without presupposing actual muscles? The Mills, Prof. Bain and Mr. H. Spencer, the most illustrious exponents of the Association-theory in our century—have they achieved their success in Psychology by strictly adhering to mental analysis and synthesis; or have they not rather succeeded in proportion as they have availed themselves of psychophysical data, yielded by physiological research under the indispensable and steadfast assumption of the permanent, extra-mental subsistence of that which we perceive as an animal organism?

The second psychophysical misconception leading thinkers to believe that introspectively the mental presence can be investigated without presupposing an organism of which it is the vital outcome, arises from overlooking the all-important fact of a definitely shaped and permanent self-feeling, composed of immediately localised sensations. In former sections I have explained why I think that this self-feeling is an effect of specific energies emanating from what we perceive as central nerve-structures. But it remains nevertheless certain that we feel the surface of our body in all its manifold positions as an immediate sensation, and therewith as a mental fact of the subjective order. Thus an internally felt spatial realisation of our body, corresponding to its experiential realisation in objective space, enters as an original ingredient into our mental presence. When we then, further, consider that the entire perceptual realisation of the objective world is made up of specific qualitative modifications of this original and organic self-feeling, we can surely not deem ourselves justified in believing that we may really omit in any investigation of mind this its most salient and comprehensive feature. Vivified by the magic touch of specific stimulation, our objectively unqualified, colourless self-feeling becomes pervaded with the variegated and multiform figurations, signifying the veritable world in which we actually live and have our being.

Thus vital organisation forms the medium of all our world-realisation.

Berkeley in § cxvi. of his *Principles* struck the keynote to most of the subsequent speculations on Space, consciously or unconsciously based on organic and vital data. He says:

"When I excite a motion in some part of my body, if it be free and without resistance, I say there is *space;* but if I find a resistance, then I say there is *body.*" "When I speak of pure or empty space, it is not to be supposed that the word *space* stands for an idea distinct from, or conceivable

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without body or motion." "If my body were annihilated, then there could be no motion, and consequently no space."

For simplicity, we will assume that Berkeley in advancing these complex psychophysical statements had—in his space-construction at least—only the subjective aspect in view, the immediate feelings which accompany the objective movement of parts of our body. In this case, space would be identical with our feeling of motion. The feeling I have when with closed eyes I am moving my hand through a non-resistant medium, would itself be space. This very simple notion of space, quite in agreement with the supposition of a percipient mind purely intensive, seemed plausible from the point of view of Nominalistic Idealism. As soon, however, as philosophers began to examine more closely such sensuous space, constituted by mere feelings of motion, it became obvious that, while motion is itself pre-eminently a phenomenon of succession, the chief characteristic of space, on the contrary, is to have all its parts existing together at one and the same time. How to derive co-existence of spatial elements from a succession of unextended feelings, became therefore the chief difficulty which had henceforth to be encountered in the construction of extensive perception.

Brown, regarding time as a succession rendered continuous by memory, tried to evolve from it the chief attributes of extension, such as length and divisibility. He believed that, in the succession of muscular feelings accompanying the movement of our limbs, length or extension is given. A particular muscular contraction becomes representative of a certain length. When we grasp an object, the knowledge that so much of muscular contractility remains unexpended yields us the measure for the extension of the grasped object. In proof that space is derived from the association in memory of successive feelings, he adduces the influence still exerted in adults by modifications of time-experiences on the realisation of spatial dimensions. He asserts, namely, that the extension of a given line is felt to be longer or shorter in proportion as we move our finger slower or quicker over it. He is quite positive that the difference of time occupied by the successive feelings expands or contracts the idea of length or extension.

I do not believe that any one who tries this easy experiment is likely to agree with him. Whether I move my finger slowly or rapidly over a given line, it appears to me always of the same length. The relative positions of the initial and the final contact to my centre of apperception,

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by which I really estimate the distance, remain constant, whether I take more or less time to reach these definite localities. On the supposition that time itself contains longitudinal or spatial extension, any series whatever of remembered feelings would necessarily yield space-perception. As everyone will readily admit that this is by no means the case, succession or length of time cannot possibly constitute an essential and original element of Space.

An unsophisticated mind would think it obvious beyond controversy that, in spite of the lapse in time of all our feelings, there consciously appears within our mental presence, ready-made and persistently enduring, an unmistakably extended universe with all its parts simultaneously subsisting. But the real entities of our Experiential Idealists, their mental atoms, being considered by them unextended, they find themselves consistently forced to construct the whole mental presence out of such spatially non-existent and temporally evanescent Mind-stuff. This feat however will ever be found a business compared with which the labour of Sisyphus must be deemed mere play. For he, while performing it, had at least something to roll, something to roll with, and something to roll upon. But how to consolidate by memory or otherwise into simultaneous extension and actual presence successive moments of ever-fleeting time, irretrievably dwindled away into the past—this is a task which transcends all thinkable possibility.

Prof. Bain, to whom scientific thinkers owe so great a debt of gratitude, formulated his theory of space in times of pre-evolutional speculation, chiefly under the sway of the Association-philosophy. Conscious himself that feelings of succession cannot possibly yield perception of Extension, he is nevertheless led by the logic of a purely intensive medium of composition to construct space from a combination of successive feelings. If however, as he himself maintains, "motion is a fact of succession and can do nothing to suggest a group of contemporaneous phenomena, an outspread universe of the co-existing in time"; and if all our sensations, "warmth, odour, relish, touch, sound, colour, contain no elements of extension"; then it is quite certain that no experiential manipulation nor mental chemistry of any sort will ever avail to evolve from such mere instants of time genuine space-perception.

Prof. Bain, in common with other Idealistic Experientialists, holds that "motion is the fundamental fact" in extension, and this in spite of its being composed of nothing but successive elements. Of course he means by

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motion, feelings of motion, and with him — as every student of philosophy well knows — feelings of motion are not centripetal sensations stimulated by the moved organs, but definite centrifugal feelings of so much energy expended in the innervation of muscles, which spontaneous feeling of exertion is found by experience to correspond objectively to so much unimpeded muscular contraction. Now Prof. Bain believes further that it is this mental capacity of feeling the putting forth of moving as well as resisting energy, and not any passive sensation, that gives us the consciousness of the object-world. In other words, it is through feelings of outgoing energy that Externality, and therewith all spatial attributes are constituted. Under this supposition it becomes obvious that "passive sensations" can only limit, and give concrete, experiential boundaries to the sweep of Externality created by "moving energy". The task of constituting an outspread sphere, which passive sensations thus experientially limit, devolves after all solely on motion. But motion, being "a fact of succession," has been declared by Prof. Bain himself incompetent even to suggest extension.

It would not be difficult, but useless, to trace a number of other incompatibilities in this typical and very careful specimen of a hybrid space-theory, half associational, half psychophysical. Vital spontaneity is indeed the fact of nature, by which our being is raised above the sphere of mechanical causation, within which we could, at best, be nothing but conscious automata. But this spontaneity is not to be found where Prof. Bain suspected it. It has been satisfactorily demonstrated by Profs. Ferrier and James that there exist no spontaneous centrifugal feelings initiating and regulating "moving energy". All the feelings we have when moving a limb unresisted from without are first sensations of resistances caused centripetally by the pull of muscles intra-organically hindered in their contraction, and then externally localised and subjectively qualified sensations shifting their position. The "moving energy" remains unfelt because muscles move by dint of their own *vis insita*. The mechanical effect, or outgoing energy of muscular motion, originates in the muscular substance itself, and no where else. Therefore the conscious result of its motion, felt by us as so much sweep or so much resistance, can reach us only centripetally. The neural process centrally initiating the inciting wave of molecular explosion that descends through the nerve-fibres to the muscles contains in itself nothing of motor impulse. Thus it comes that a volitional

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resolution and its motor performance are so strangely incongruous to consciousness. The former is an immediately self-conscious activity; the latter comes back to the self-conscious centres as a mere inciting wave set going by, and organically representing a specific peripheral process.

In former sections it has been shown that sensations, being themselves immediately felt as localised affections, are possessed as such of the spatial attributes of position, involving definite distance and direction in relation to our apperceptive focus. As regards surface-extension, which is the spatial dimension especially held in view in the above and in most other attempts at space-construction, it is futile to try to argue away the conspicuous fact that tactile, as well as visual, sensations are themselves experienced as extended without the aid of any actual or remembered movement whatever. The series of subjective feelings accompanying the movement of a limb may measure well enough Extension already objectively subsisting, but it cannot create the permanent co-existence of its parts. An enduring and consolidated spatial integral can never result from a succession of lapsing moments. Space is no product of reconstitutive memory, but an original extensive feeling stimulated from a plurality of sensory elements, found objectively to co-exist as permanent possibilities of sensation.

Extension, actually subsisting as outspread room, is always more or less unconsciously presupposed by psychologists of the Association-school, and their "feelings of motion" only serve to measure this veritable space somehow found in readiness within perception. That a pre-existing matrix for the display of spatial phenomena is indispensable to constructive as well as to intuitive psychology, is rendered evident when we consider that motion itself, which really means the shifting from one place to another, if it is to come into consciousness as such, necessarily involves a plurality of positions one outside the other. The feelings of motion merely traverse as definite but continuously shifting positions a space otherwise objectively realised; or—contemplated from the subjective standpoint—they successively energise the permanent and co-existent parts of an organically pre-established disposition. To this invariable implication of ready-made space as room for the feelings to move in, or as extension to be measured by them, John Mill gives plain and strangely unguarded expression even while in the very act of defending against Intuitionists the psychological creation of space from successive feelings. He says that psychologists of the Association-school "con-

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sider the idea of extended body to be that of a variety of resisting points, existing simultaneously, but which can be perceived by the same tactile organ only successively at the end of a series of muscular sensations, which constitutes their distance". As if "a variety of resisting points, existing simultaneously" were not already full-fledged objective space, merely to be measured by the successive muscular sensations!

To overcome the psychological difficulty of being obliged to transform a succession of unextended feelings into Extension, we have to make quite clear to ourselves that no sensation, whether motor or sensory, can possibly be felt as shifting its place, as moving in any direction, without energising different parts of our potential space-consciousness. If the feeling I have of my finger while holding it in a certain position, were spatially identical with the feeling I have in holding it in another position, the two feelings being distinguished only as having occurred in different moments of time, then never could I by any psychological means whatever realise these two feelings as external to each other, as separated one from the other by spatial distance. When I move a finger in non-resistant space, or along an object, it is not a succession of identical sensations I experience, but most distinctly a succession of different positions actuated within that potential sphere of space which radiates in all directions from my apperceptive focus.

Perhaps it may help to elucidate the fact that outwardness or distance from the focus of apperception is given in immediate feeling, if we consider such sensations as are usually believed to possess no space-attributes at all. We ask whether a sound, or an odour, or a taste is actually realised as a mere internal feeling, as a purely intensive affection of our apperceptive focus. It is evident, beyond doubt, that Externality, the most fundamental space-attribute, belongs to all of these mental states. They are unmistakably modes of the Object-world. It is the bell that sounds, the violet that is odoriferous, the wine that has the taste. Thus it also comes that these sensorial affections, when morbidly aroused by intra-organic stimulation, are so often turned by our productive imagination into externalised and objectified hallucinations. Experience may teach us more and more accurately what kind of object it is that arouses these sensations, or how near or how far from us the source of stimulation will be found, but the aroused sensations themselves are felt as immediately externalised experience, not as wholly unlocalised modifications of an

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unextended self. Surely no one will seriously contend that it is experience which *originates* the outwardness of our sensations of sound, smell or taste, which gradually transforms them from mere internal affections into externalised feelings. Nor can any amount of listening, sniffing and smacking ever suffice to place the least distance between the percipient agent and his perceived sensations, or to separate by any fraction of space the locality of attention from the affections attended to. The peripheral organs, objectively perceived as situated at a distance from the centre of conscious realisation, have in the course of their organisation managed to make their existence and influences immediately felt where they can be actually corroborated by the objective aspect. Of course, all sensations alike are nevertheless at bottom only modifications of self-feeling, but self-feeling reaching to the stars.

It is indeed an inveterate and most obscuring habit of philosophy, dating from the very beginnings of rationalistic psychology, to look upon mental phenomena as purely intensive, containing "no elements of extension". Then inevitably we find ourselves in the presence of the most distracting crux of psychical science. Time has to be somehow metamorphosed into space, inwardness into outwardness. From a lapsing succession of sensations, forming a series of unextended feelings, the permanent and simultaneous expanse of the outer world has to be constructed. In this difficulty, arising from traditional assumptions involved in the spiritual hypothesis, Idealistic Experientialism, which endeavours to build up knowledge from a combination of sensorial awakenings, is forced to attribute all synthetical efficiency to an associating memory, to a psychical recollection and unification of lapsed data into actual mental presence. Memory spontaneously or associatively at work—these being mere empty words expressive of an unknown power operating in an unknown manner—memory as a reproductive power, itself hidden, has to furnish from sources utterly occult the synthetised product, which is recognised as ready-made in the unity of apperception. In order to accomplish this in our present instance of the conversion of temporal succession into spatial co-existence, the Association-philosophy has to transgress most anomalously its avowed laws and powers. It has not only to bring together previously and severally experienced data into actual mental connexion, but has moreover to create an entirely new product from the data experientially given. Sensations containing "no elements of extension" and muscular feelings

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that cannot even "suggest" extension have, in the impenetrable recesses of associating memory, to undergo some miraculous chemical unification in order to appear in consciousness as that something called space, differing at least as much from moving energy and unextended sensations as the compound water is found to differ from its component elements.

But—it may legitimately be contended—if Extension or Space, after such an out-of-the-way mode of fabrication, actually appears at last in consciousness as a ready-made product of synthetic union, it cannot possibly be true—what however had been assumed to start with—that mental or conscious phenomena, occurring as they do without exception in time, are as such in truth one and all purely intensive or unextended. The fact is, the mysterious synthetising operation is not really meant to give birth to the transient phenomena of our own fitful space-consciousness, but efficiently to produce the objective extension of permanent existence; —an utterly hopeless undertaking. Our own sensations coexist, as such, externalised and extended. They do not merely realise or measure "a variety of resisting points, existing simultaneously".

I have been sitting quite motionless opposite a window, looking into vacant space, unconscious of any outward object. I now shut my eyes, and behold! the image of the entire window-frame appears most distinctly in perception. Will anyone maintain that this extended percept contains any "resisting points," or is produced by our memory recollecting into actual presence the moments of moving energy necessary to carry my focus of vision over all points of the seen surface, fusing them together with retinal sensations that through habit have been uniformly conjoined with such motion, and thus creating a definite idea of distance as separating the retinal sensations from each other?

If this astonishing performance on the part of synthetic memory should appear still plausible to anyone, let him try to explain what kind of new synthesis is accomplished by memory, when the whole after-image, steadily occupying identical retinal points, is felt to shift to new positions in space in agreement with every objective movement of the entire eye. Can it be that the very same retinal sensations have been habitually conjoined with every possible kind of muscular feeling? Would such a principle of arrangement not produce chaos instead of order?

Again I have my eyes closed, and hold my outstretched hand quietly before me. Distinctly and immediately I feel

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it as an extended object, without shifting in the least my focus of apperception. Now, is this actual recognition of extension due to the remembrance of a number of previous tactile and visual explorations of the hand; or, on the contrary, to the simultaneous energising, at this very moment, of my potential space-perception from what can be objectively realised as a number of sensory points? It seems to me that to unprejudiced thinkers there can remain no doubt which of the two views is the more correct.

Apart from time-honoured misconceptions of a speculative order, peculiar psychological difficulties arise here principally from two causes. First, space is identified exclusively with surface-extension; the third dimension being at once abandoned to motor suggestions. And then this surface-extension is contemplated as primarily realised through motor explorations, through the actual movement of feeling points, such as the focus of vision or the tip of a finger over the explored surface. This view tacitly presupposes objective expanse, organic and extra-organic. Subjectively it renders indispensable to the construction of Extension a creative synthesis of successive feelings. As soon, however, as we realise that Externality and Extension are already given as definite distance in the immediately felt localisation of sensations, it cannot be difficult further to conceive that it is from a felt plurality of simultaneous sensorial positions, or from an extra-mentally accomplished combination and fusion of such, that surface-dimensions become consciously realised.

Mr. Herbert Spencer with his usual penetration has recognised that the veritable element of space-perception is position. He has even realised that these positions are all originally relative to our "centre of consciousness," and that in tactile experience they are in reality "perceived positions of that part of our body in which the sensation of touch is located". But, not following up to their veritable origin these perceived positions, he then yields to a psychophysical error, which vitiates his otherwise masterly analysis and synthesis of space. He believes the knowledge of the position of our members to be acquired by tactile explorations, missing thus the essential truth that this knowledge is given in immediate sensation, and that, consequently, distance or extension is primarily a truly subjective and not an objective experience. Hence by thus objectifying the knowledge of position as something connected with outer existents, explored and exploring, Mr. Herbert Spencer finds himself incapable of realising it without the help of motion. The knowledge of objective

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position yielded by touch is gained through motion. Therefore motion, after all, must here also be the veritable creator of the space-attributes found in consciousness. Extension has thus to be mentally fabricated by a synthetic union of elements of succession. The fleeting contents of time have to be metamorphosed into steadfast spatial forms by obscure operations in latent mind. And as objective positions are all resistant to touch, the further task arises, to derive from the experience of such resistant positions the conception of a generality of non-resistant positions. Space, instead of being an underlying organic and vital potentiality energised by strictly localised sensations specifically stimulated, becomes a conceptual abstraction generalised from concrete tactile experiences.

My right hand is lying on my head; the other is outstretched on a table at my side. I have my eyes shut. Someone pricks my right hand. I immediately have a sensation localised at a definite spot above my apperceptive focus. Now my other hand is being pricked, and I am directly aware of a pain a long way off to my left at a certain distance below my apperceptive focus. After this, the person who applied the stimuli combines by means of a straight stick the two objective spots stimulated. I feel in consequence something touching the very spot first pricked and then something touching the pricked spot on the other hand. By means of feelings of resistance I conclude that a solid object has been placed between my two hands. Now, I ask, whether the knowledge of the direction and length of this foreign object be derived from the mental revival of the combination of tactile and muscular feelings required to carry an exploring finger or any other tactile organ over the space intervening between the two organic points here touched? Or whether that knowledge be not rather involved in the immediate subjective feeling of the positions occupied by those two points as already known before they had been objectively combined and measured by any foreign object? I think there can remain no doubt which of the two opinions is more in keeping with nature.

The leading misconception in Lotze's famous view of space-construction, a misconception shared by so many eminent scientists, consists in his hypostatising the nerve-system as a peculiar existent conveying spatially arranged impressions to a soul or mind which it has the power to affect. We have seen—as becomes so obvious when once pointed out—that what we objectively realise as the nerve-system is not an extra-mental existent at all, but a

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percept in the mind of an observer. Such a nerve-system consisting in a percept of some other individual cannot possibly convey its spatial arrangements to the apperceptive principle belonging to the person observed. The notion of a soul apperceptively catching up nerve-motions or sensory impressions, however great a part it has hitherto played in philosophy, loses all its plausibility as soon as we come to understand that the physical aspect of our individuality is the perceptual realisation of an observer, and not the veritable substratum in which our own percipient principle is inherent, or with which it is in reality connected.

Under the false psychophysical supposition of a body acting upon a soul, the fictitious problem naturally arises: How sensory impressions simultaneously reaching such a soul, and on their passage from objective existence to subjective apperception losing all their spatial characteristics, can nevertheless so affect its purely intensive being as to force it to rearrange spatially its own sensorial awakenings. The realising soul being taken as an apperceptive subject to whom spatial attributes in no way apply, the task is imposed upon it to reconstruct spatial relations from mere qualitative data, which in some way it must receive from motor or sensory channels. These qualitative data are the celebrated and much utilised "local signs" introduced by Lotze. To us they are utterly useless, first because they owe their being to a fundamental psychophysical error, and then because—even granting the possibility of their existence—they could in no way help to originate our space-perception; for the most different spatial positions are, in fact, realised by identical sensory points, and this without the least reference to motion.

With Prof. Wundt I quite agree that we distinguish subjectively the various members of our body by means of a qualitative difference in the sensations emanating from their respective sensory surfaces; that, for instance, the immediate feeling I have of my foot is very distinctly distinguishable from the immediate feeling I have of my hand. But I deny that these qualitative distinctions assist in the production of space-perception, or afford any local signs for spatial arrangements. When I touch my foot with my hand, I feel both touching surfaces localised at the very same place in space. Here the two qualitatively different sets of sensation occupy the same spatial positions. The recognition of these positions can therefore not be helped or hindered by the peculiar qualitative characteristics of the sensations, which make me aware that it is a

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certain hand and a certain foot, and no other member of my body, that are thus localised. I now feel my thumb in some definite place in space: I know that it is my thumb by dint of the peculiar quality of the sensorial awakenings emanating from it. Has this qualitative peculiarity been operative in the recognition of the spatial disposition of the feeling? To decide this question, I move my thumb to quite another place. The qualitative peculiarity of the feeling remains unchanged; yet I clearly recognise that it occupies an entirely different position in space. Consequently the qualitative peculiarity of the feeling cannot possibly have contributed anything to the space-perception here involved. And if I recognise the position of any one point of a member without the help of qualitative signs, I certainly recognise as well the position of all its points without such help.

The feelings of motion or innervation which—synthetically combined with such qualitative tactile characteristics—are held by Prof. Wundt to constitute space, I have shown to take no part in our original realisation of spatial dimensions. Therefore both synthetical factors of Prof. Wundt's space-construction are ineffective.

In studying the history of the space-problem, as far as the material for such study has been accessible to me at my distant home, I am highly gratified to find that at least one investigator, starting from the much more obscure and difficult phenomena of sight, has nevertheless arrived at an essentially similar conclusion to the one I have reached by the psychophysical interpretation of a distinct and simple tactile experience. Prof. Stumpf, in his very able and elaborate treatise *Ueber den psychologischen Ursprung der Raumvorstellung*, has demonstrated that extension together with colour form part-contents of one and the same sensorial experience, and that this experience is immediately given without the help of muscular motion; not associatively or synthetically constructed with the aid of such. He also shows that the third dimension, distance or depth, usually attributed to the influence of motor realisations, is immediately recognised as forming part of our original sensorial experience; in fact that every spatial recognition involves all three dimensions.

(To be concluded.)

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V.—RESEARCH.

ON THE TEMPERATURE-SENSE.

By Henry Herbert Donaldson,

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1. *Historical.*

In the course of an investigation undertaken with Prof. G. Stanley Hall and under his direction, it was incidentally observed that the sensation of cold was felt only at definite spots on the skin.

The fact was noticed in this way: The sensations of motion as derived from the skin were being studied by means of a metal point which was slowly drawn over the surface. When the motion of this point, which was controlled by a suitable apparatus, was very slow, it often happened that it seemed to stand still for a time or even be lost, when suddenly a sharp sensation of cold, distinctly localised, would recall its presence and position.

This occurred so often that I find in my protocol for April 18th, 1884, the note: "Point always felt as cold". This fact arrested my attention, and in connexion with the other work I made several maps of these cold-spots on different parts of the body. When the experiments had reached this point, an important paper by Magnus Blix (1)[1] came into my hands.

This investigator started from the law of the specific energies of nerves, and took up the study of the dermal sensations to determine, if possible, how well-founded was the contradiction which they apparently offered to this law. He employed unipolar electrical stimulation, using a pin for his small electrode, and made use of an induction-current so weak that it did not generally cause pain. He thus produced at one spot on the skin a sensation of pain, at another pressure, at a third cold, and at a fourth heat. These spots were distinctly localised, and never superposed on one another. He gave special attention to the spots from which sensations of temperature were to be obtained. These he studied by means of a small metal tube drawn out to a conical point (Fig. III., below), and so arranged that a current of water could be kept flowing through it, thus enabling the observer to maintain the point at an approximately constant temperature. Using this instrument, he investigated various parts of the skin, and mapped out the heat-spots and cold-spots in several regions. Further, he applied the crucial test: a heat-spot and a cold-spot having been found, the warmed point was applied to both, then the cold. No sensation followed the application of the warmed

[1] See "References to Literature" at the end.

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point to the cold-spot, or the cold point to the heat-spot; thus showing the complete differentiation of these temperature-organs.

Where the epidermis is thicker, he found that the stimulus must be stronger to get the desired reaction. This suggests that the so-called spots may only be the more superficial portions of the nerve-bearing layer of the skin, which is in reality all sensitive. That this is not the case, is shown by the fact that the stimulus may be applied to a neutral spot for an unlimited time, without giving rise to a thermal sensation. The general bearing of these results on the current theories is kept in view throughout the paper. Blix, therefore, concluded that we have separate nerves for heat and cold, and that these have distinct terminations in the skin, which can be demonstrated.

Somewhat after the appearance of this paper by Blix, A. Goldscheider (2) published the results of a very important series of experiments.[1] He had been for some time studying the specific energies of nerves, and in this connexion was led to investigate the sensations of temperature. For detecting the cold-spots he used either fine brushes dipped in ether or capillary tubes filled with the same. For locating both the heat-spots and the cold-spots he used small brass tubes brought to a conical point at one end and closed by a rubber-stopper at the other; these could be heated or cooled as was desired. To exactly mark the spots when found, he used a thermæsthesiograph, by means of which a brush wet with Indian ink could be brought down quite exactly on the spot which had been previously stimulated. I regret, however, that he has given no account of precisely how he travelled over the skin with this apparatus, and thus developed his maps. Thus working, he found that temperature-sensations were roused only at definite spots. His maps show them as very much more abundant than either Blix or I found them.

As a rule the cold-spots are most abundant where the skin is most sensitive to cold, but what Goldscheider calls first-class spots, *i.e.*, those which react strongly on moderate stimulation, may often be quite few in number, where the spots of all grades are numerous.

These spots are not alike on the symmetrical parts of the same individual, nor are they alike on the corresponding parts of diffe-

[1] At this point explanation becomes unavoidable. I first learned of Goldscheider's work on this subject, through *Nature* for January 15th, 1885, which contained an abstract of a report made to the Physiological Society of Berlin on December 12th, 1884, by Prof. Eulenberg. In this abstract, mention is made of the work of both Blix and Goldscheider, but no mention of the place of publication. This was first discovered on March 13th, 1885, and on the following day I was able to consult the paper at the office of the Surgeon-General at Washington. At another point I shall state how much of my investigation is strictly independent, and how much is imitation of the work of the above authors. The mention of these dates, however, appeared to me necessary to prevent any misapprehension of the relation in which the various investigations stand to one another.

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rent individuals. What has been said for the cold-spots holds true also for the heat-spots. These latter are on the whole less abundant than the former, and tend somewhat to occupy the spaces from which the former are absent. There are certain spots which are roused only by excessive temperatures. Goldscheider notes also that a spot often stimulated loses its sensibility, apparently becoming exhausted, for it does not react well until a more or less long period of rest has been allowed. When a heat-spot is overheated, it sometimes happens that a hyperæsthesia is produced, so that even pressure from a perfectly neutral body gives rise to a sensation of heat. He calls attention to the often observed fact that the tactile and thermal sensibilities in different parts of the body do not vary uniformly, and he points out that the discriminative sensibility when measured on two thermal spots is, as a rule, much finer than when measured in the ordinary way, and that this discrimination is finer the more intense the stimulus. In certain parts, as, for instance, those in which it is finest, discrimination for tactile-sensations surpasses that for temperature-sensations.

These sensations of temperature can be roused by mechanical and electrical stimulation as well as thermal. In both cases the cold-spots are more easily discriminated than the heat-spots.

By sending a strong electrical current through the arm and parts of the hand and thus stimulating certain nerve-trunks, Goldscheider is able to get peripheral sensations of temperature; here, too, the sensations of cold tend to predominate. He finds these spots insensitive to pain or contact. A needle may be plunged into them, or excessive temperatures applied without causing any feelings of discomfort.

Goldscheider also mentions the commonly observed persistence of sensations after the removal of the stimulus.

In sketching a general theory of temperature-sensations, Goldscheider brings a certain amount of evidence against the views of Hering (15). This latter investigator, relying mainly on the fact that water of the same temperature may feel cold or warm according as the hand is brought into it from a warmer or a colder vessel, concluded that, when the susceptibility of the thermal apparatus is decreased from one kind of stimulus, *e.g.*, heat, it is increased for the other, *e.g.*, cold, and *vice versâ*. The experiment which Goldscheider records is this: If one hand be put into a vessel of water at 40° C. and kept there for ten seconds, and if then both this hand and the one which during the meantime has been at the room-temperature be put into cold water, the warmed hand will feel the cold less distinctly than the one which has been kept in the air of the room. In going from a cold vessel to a hot one, heat is in the same way less distinctly felt by the hand which has been immersed. If, now, the view of Hering were correct, that the exhaustion for one stimulus was correlated with an increased sensitiveness to the other, we should expect the

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immersed hand to feel the change of temperature more acutely than the other; but this, we have seen, it does not do. Goldscheider therefore inclines to the older view of Weber.

Goldscheider's paper is further continued by an interesting discussion of the other sensations of the skin—pressure, pain and tickling; but with those we are not at present concerned.

In a communication to the Physiological Society at Berlin (Dec. 15th, 1884), Prof. Eulenberg (3) states that he has been able, in the main, to corroborate the results of Blix and Goldscheider, but did not succeed in getting temperature-sensations by mechanical stimulation. In Eulenberg's paper, chemical stimulation is spoken of as having given positive results in Goldscheider's hands. As no mention is made of chemical stimulation in any of the published papers of Goldscheider which I have seen, I am inclined to think this statement erroneous.

The most recent paper is a note by Goldscheider (4) in which he reaches the conclusion that the temperature-nerves often radiate from centres, and that these centres often coincide with the hair-follicles.

2. *Experimental.*

As the work which had been in progress before the receipt of Blix's paper involved the use of metal points at the temperature of the room, it naturally followed that the cold-spots were alone noticed. The moment attention was directed to the heat-spots their existence was easily demonstrated.

My first endeavour was to make an accurate map of these spots on some portion of the skin. Maps had been made long before, but they had been quite rough, and hence it was deemed worth while to repeat the operation. For this purpose, the apparatus which had been previously in use was, with some slight modifications, employed. This machine was devised by Prof. Stanley Hall, and will be described in a forthcoming paper, under the name of the "Kinesimeter". The description about to be given is intended to make clear the use of this instrument in this investigation alone.

The essential part is a rectangular brass table T (Fig. I.), 36 × 33·5 cms. and 26·5 cms. high, supported on four legs. In the middle of this is a rectangular opening 25 × 5 cms.; over this runs the car R, the wheels of which fit into grooves on either side of the opening. It can thus be rolled from one end of the opening to the other. At the ends of the opening are seen the grooved wheels P′ and P″, about which passes the endless cord N N. This cord can be clamped to the side of the car, so that when the wheels are put in motion the car is moved. P″ is geared with P so that the motion of P is transmitted to it; in this way, by putting my finger on P and slowly turning it, a slow motion can be given to the car.

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FIG. I.

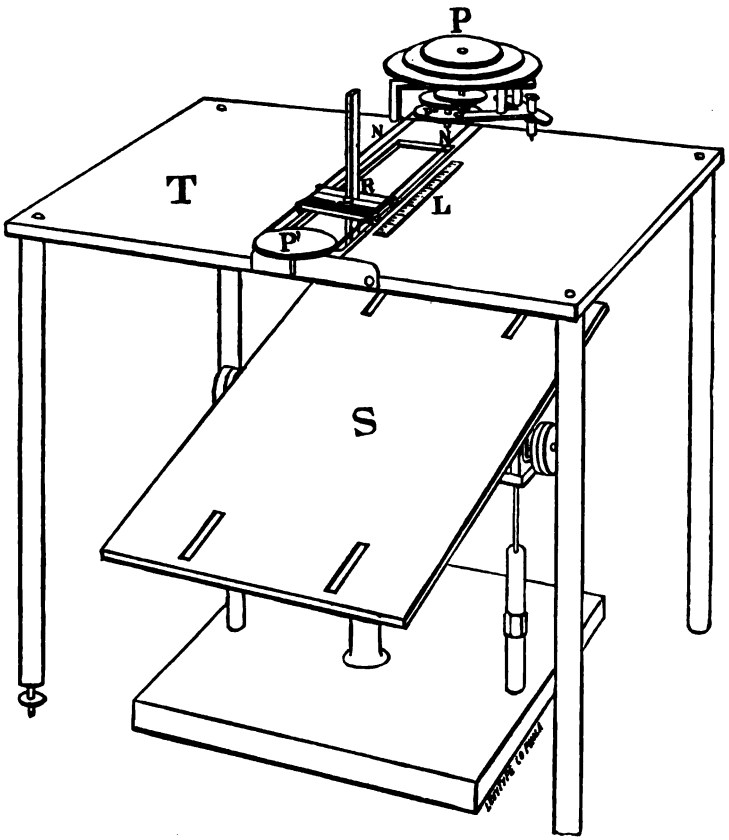

FIG. I.—The Kinesimeter (size ⅛ the original). T, Table; R, Car; N N, Endless cord; P, P', P'', Grooved wheels; L, Scale; S, Adjustible support.

The car itself (Fig. II.) has the following construction. It consists of a square brass frame, 6 × 6 cms., supported on four wheels. Joining the two sides of the frame are two cross-pieces K, K', having between them a space 1 cm. wide. Within this space, and sliding by grooves along the cross-pieces K, K' is a cubical block of brass (not shown in the figure), which can thus be moved from one side of the car to the other through a distance of 4 cms. The upper side of K is marked off into millimetres, and the sliding block has on it an index; by this means the position of the block can be exactly determined. By means of the screw V, the grooves in K' can be narrowed and the cubical block thus clamped in any position desired. Through the centre

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FIG. II.

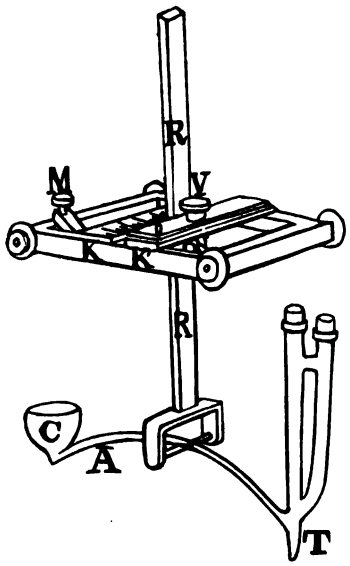

FIG. III.

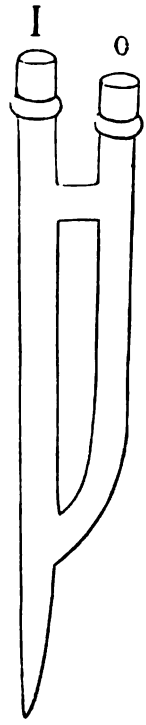

FIG. II.—Car (size ½). R R, Adjustible rod; A, Swinging arm; C, Counterpoise cup; T, Hollow tube (rubber tubing and flasks for keeping a continuous stream of water flowing through the tube—not shown). N, Clamping screw to hold R R in position; K, Cross piece with scale; K′, Cross-piece, the groove of which can be narrowed; V, Clamping screw by which the narrowing is effected; M, Clamp for fastening the endless cord to the car.

FIG. III.—Hollow pointed tube (actual size). I, Inflow; O, Outflow (after Blix).

of the block runs the vertical rod R R, 10 cms. long, and rectangular in cross-section. This rod can be moved up and down, and fixed at any height by the clamping screw N (partly shown in the figure). The lower end of the rod bears the curved arm A, 8 cms. long, which swings vertically. At one end is the cup for holding a counterpoise weight; at the other the pointed tube is soldered (Fig. III.).

In Fig. I. is to be seen the support S. This is a heavy brass platform, the height and inclination of which can be adjusted within wide limits: when experimenting, a wooden trough was lashed to the top of this plate S, and in this trough the limb, supported at the sides by soft cloths, rested. Thus slight movements of the limb were prevented, and the whole plate could then be raised to the requisite height, and levelled for the experiment.

It remains to describe the device for applying the thermal stimulus to the skin. This was copied, in the later work, directly

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from Blix. A German silver tube (Fig. III.) was made in a way which is plain from the figure. Water of the requisite temperature was allowed to flow through it, entering by the straight limb, and by this means any temperature could be maintained throughout the experiment. The point of this tube which is applied to the skin, is 0·9 mm. in diameter and rounded.

The part to be examined having been adjusted on the platform S as described (Fig. I.), the car was moved along until the point of the tube was brought to rest on the desired spot. Then, supposing the portion of skin to be examined to be 2 × 3 cms., by means of the gearing above described the car was made to move over the skin in a straight line and at a slow and uniform rate; the point pressing down with a weight of about 10 grms. The distance of 3 cms. having been thus traversed, the point is raised and the car rolled back to the place from which it started. Now by means of the block which carries the rod R R (Fig. II.) the point is moved 1 mm. laterally, and the same thing repeated. Thus, in mapping out a space 2 × 3 cms., the car is drawn 21 times over the skin, making 21 parallel lines or practically touching every bit of skin within the area. The fact that the point is ·9 mm. in diameter and is moved 1 mm. each time, is not inconsistent with the above statement, for the sinking-in of the skin under the point brings practically a millimetre of surface in contact with the point on each tip.

For the purpose of making it possible to continue such observations for a number of days, the hand or other part of the body was marked. To do this a point was located in the back of the hand, for instance, by very careful measurements which could be repeated at any time. In a line at right angles to the long axis of the hand, another point was marked; then in a line at right angles to the line joining these two parts, a third point was placed a few centimetres distally.

Starting from the first-mentioned point, a series of very fine dots was placed along the transverse line at each millimetre. There was thus formed a line of 21 dots along the distance of 2 cms.

The hand was adjusted so that the lines drawn by the thermal point coincided with, or were parallel to, the line at right angles to this row of dots; by means of this device it was possible to arrest an experiment at any time, and take it up again from the exact point at which it had been stopped.

The marking the skin was done with a fine brush dipped in an indelible ink. The permanency of this marking material was its main recommendation; at the same time, it may not be out of place to draw attention to the fact that the slight inflammation caused by the silver nitrate renders it unsuitable for marking the temperature-spots themselves.

The position of the spots at which heat or cold was felt, was recorded in the following way. On the car was a fine index

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which moved over the millimetre scale L (Fig. I.) as the car was drawn along. The index moved 1 mm. for each mm. of skin over which the point passed, so that, if the position of the index was observed at the start, the distance through which the point had moved on the surface could at any time be readily found. Fifths of a millimetre could be read on the scale, so that the position of the point could be accurately recorded. In practice then the position of the index was noted when the point was on one of the dots on the hand. As the car moved on and a spot at which the temperature was felt was crossed, the person examined called "hot" or "cold" and the experimenter noted the position of the index. After the experiment, the positions of the spots were all calculated from these notes and recorded on paper ruled in squares on which 1 mm. was represented by 5 mms., thus enlarging the area twenty-five times. By this means, the small differences in the positions of spots could be recorded without confusion. The maps to be presented were made in this way, and then reduced to their true size, the points occurring within ·5 mm. being in these maps united into a single point.

There is of course the possible source of error that, where the surface is rough, 1 mm. on the scale will not represent 1 mm. on the skin. This has been attended to, and though it prevents the use of this method of experiment on certain parts, it does not become of any importance in the maps given.

There is another error which should be noted. The points being ·9 mm. wide, the lateral position of a spot is in doubt by ·45 mm. All the spots are put down in the middle of the path of the point and are thus so far inexact. The relations of the spots are, I think, even under these conditions, pretty fairly represented. A number of preliminary experiments were made to see if any important variation was caused by varying the direction in which the point was drawn: the results were found the same, whether the motion was up or down the limb or transversely, so that in the later experiments it was always drawn in one direction only. There is a slight variation caused by the movement of the skin itself under the point, especially at those places where the skin is loose; but where the movement is always in the same direction, this disturbing factor is reduced to zero.

Two carefully constructed maps are given (Figs. IV. and V.) for the left and right hands of the same individual, the parts being symmetrical. In this case the cold-spots are marked with dots and the heat-spots with circles; the difference in size indicates a difference in the intensity and regularity with which the sensation could be obtained from the different spots, the smaller spots being less sensitive.

In this work the temperature of the point used for finding the spots at which cold was felt, was about 15° C., while that for the heat-spots was about 50° C. In the study of the spots on other parts of the skin, the metal tube of Blix was often held in the

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hand and thus moved about, this method answering for certain work very well. The other apparatus used will be described further on.

FIG. IV.

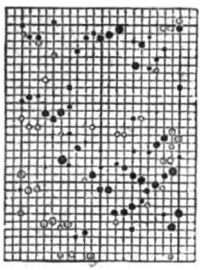

FIG. V.

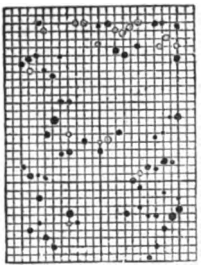

FIG. IV.—Map of the heat-spots and cold-spots on the back of the left hand. Extent, 2 × 3 cms. Dots indicate cold; circles, heat; the larger ones represent the spots which give a strong reaction; the smaller, those which give a weak one. The top of the map is peripheral, the bottom central. The right side is the radial; the left the ulnar.

FIG. V.—Similar map for the symmetrical portion of the right hand of the same individual. In this case, of course, the left side is the radial, and the right the ulnar.

In the statement of results it will be necessary to give them in chronological order to show how far they were independent. When first experimenting, a cold brass point, 1·5 mms. in diameter, was the only instrument used. With this I had found that cold was felt in spots, some spots giving an intense sensation, others a weak one; that the skin between these spots was not sensitive to cold; that the points were differently distributed in different parts of the same individual, and in similar parts of different individuals; that they were very small—as shown by the fact that unless a spot was carefully marked it could not be easily found again, for passing the point even very close to it did not rouse a sensation, as a rule; that they were permanent—once having been found they always could be found again; that they were easily exhausted—this being shown by the fact that, when the metal point was drawn down the arm and a certain number of points were observed, if it was again drawn down immediately, the number noticed on the second trip was almost always less than on the first, but if some minutes were allowed to elapse between the two trips, then the second result was, as a rule, like the first.

When I had gone thus far, Blix's paper was received. Blix (1), besides noting all the points above mentioned, found similar spots for heat, and found that what was true of the cold-spots was true of the heat-spots also, so far as their arrangement and distribution were concerned. He noticed also that the arrangement on symmetrical parts was not symmetrical; that the rela-

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tive abundance of the two sorts of spots varied; that the heat-spots were rather less numerous; and that the two kinds were always distinct; further, he succeeded in getting them to react not only to thermal but also to electrical stimulation.

It was a simple matter to confirm Blix's observations on the heat-spots, and also his other observations on the temperature-sense. For this purpose the modification of the Kinesimeter already described was used. With regard to electrical stimulation there is something more to be said. Using unipolar stimulation, with a pin for the small electrode, the sensation of cold came out very plainly at certain spots, while the sensation of heat was by no means so clear, as it seemed to me, and tended strongly to go over into burning pain which was almost unbearable. There were also other spots at which the electrode caused a burning pain from the first. Wishing to try the effects of altering the temperature of the electrode, I fastened one wire of the secondary coil to my hollow tube (Fig. III.), and, using that, was thus enabled to have my electrode at any desired temperature. The experiment was planned as follows. A heat-spot and a cold-spot were marked, then the electrode was cooled to 15° C., and by it a weak current was sent through the spots. The sensations of heat and cold followed, as was expected. The temperature was then raised to about 30° C., and again the current was applied. A sensation of heat was obtained at the proper point, but none of cold. So when the temperature was raised higher, the application of the current to the cold-spot gave no thermal sensation at all. Just what the meaning of this curious reaction is, I am not prepared to say; but my experiments on this subject are very concordant. These observations, taken in connexion with the fact that it is not very easy to get a good clear sensation of heat by electrical stimulation, indicate that further work is wanted here.

After the observations of Blix were thus corroborated, I continued the work in hopes of being able still to add something to the information already collected.

The investigation has proceeded on the assumption that these organs for heat and cold were in the skin. This idea is supported by the fact that a localised spot sensitive to temperature moves about as the skin is moved, and, when the skin is raised, comes up with it. If then the organs are in the skin, it should be possible to cut them out and examine them histologically.

A cold-spot and a heat-spot were localised on my own skin, and then cut out for me by Dr. Councilman. The bits of skin, about 3 mms. in diameter and the same in thickness, were treated by the gold chloride and formic acid method of Ranvier, hardened in alcohol, cut into serial sections perpendicular to the surface of the skin, and mounted in glycerine. For sectioning and mounting these specimens, I am indebted to Mr. H. F. Nachtrieb.

They had been marked with small dots of indelible ink, and the

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sections showed beneath the marking a slight inflammation. No difference could be made out between the spot at which cold had been felt and that at which heat was observed. There were numerous nerves beneath these spots, but they were almost as numerous in neighbouring parts. The result of the histological investigation then is so far completely negative. The cold-spot, it should be added, was taken from the middle of the lower leg on the anterior surface, while the heat-spot came from the middle of the volar surface of the forearm.

Thinking from this that the organs for the sensations of heat and cold might be quite independent of the papillary layer, I examined scars both on myself and others about the Laboratory. I also took the opportunity to examine some on patients at the Bay View Asylum. For this privilege I am indebted to Dr. Jones, the resident physician.

In the case of a woman with extensive burns (accident took place eighteen months ago), a large one on the arm, which had quite healed without much contraction, was very sensitive both to heat and cold. The point felt hotter on the scar than on the sound skin.

On the other arm the burn, in healing, had quite drawn together, and the bands of connective tissue beneath made the surface irregular. Here also both heat and cold were felt in spots, but were more intense on the superficial than on the deep parts of the scar.

In the case of a man who had two scars on his legs, consequent on deep incisions made some two years ago, the same sensitiveness was found, except for a line in the centre, about 3 mms. wide, where the scar was quite insensitive to contact, as well as to temperature. This line marked the place at which the incision had been made. For a little distance on either side of the line the point (either hot or cold) often gave rise to a pricking sensation. I later found the same pricking sensation from thermal stimulation of a large scar from a knife-wound on my own wrist made twenty years ago. Scars from boils are sensitive to temperature; and one case examined, in which the skin had been mechanically torn away for a space about 1 × 3 cms., and which was now healed, was exquisitely sensitive both to heat and cold.

It may further be added that the places on my own skin, from which the spots were removed, are now healed, 31 days having elapsed since excision, and are, so far as I can tell, as markedly sensitive to heat and cold respectively as they were before operation. I am aware that these observations do not accord with those of Weber (5). If I understand the statements of the facts as given by Weber, his experiments were made on wounds that had already healed, and therefore similar to those on which I have above reported. He found that a spatula at 8·7°-12·5° C. was not clearly distinguished from one at 45°-50° C., when applied to surfaces like burns on which the skin had been destroyed.

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The patients answered the question "hot" or "cold" as often wrongly as rightly, and occasionally, for three successive times, called the hot spatula cold, while on the uninjured part of the skin they could easily discriminate between them The temperatures which I used were 12°-16° C. for cold, and 50°-55° C. for heat; but the application was made with a point only ·9 mm. in diameter. The reason for the different results is, I think, this: When Weber rested his spatula on a thermally sensitive spot, the patient reacted correctly; but when it was between such spots, the patient had no thermal sensation and was forced to guess. That it is possible to find these thermally insensitive regions is pointed out by Blix and confirmed by my own experience. That they are sometimes quite large, even on sensitive parts, is plain from Figs. IV. and V.; and furthermore I have noticed that on many scars the spots for the above temperatures were less abundant than on the sound skin. Finally I also found regions on the scars which were thermally insensitive, so that a spatula applied to them would have given the patient no idea of its temperature. This is to my mind the probable explanation of the contradiction here.

Later, Weber (5) did make some observations on a fresh wound, from which the skin had been removed by a burn, and found it insensible to temperature-changes; but he did not study the regeneration of these nerves during the process of healing. Lussana (6) has lately examined the scar of a burn in the case of a woman, the injury having occurred thirty-five years before the examination. Here the injury was very deep, and the extent some 10 × 12 cms. He states that in the region injured the temperature-sensibility is diminished, and concludes from this that this sensation is more delicate in the papillary layer than in the tissues beneath.

In this connexion it may be mentioned that, contrary to the explicit statement of Weber (5), I find the œsophagus, through its entire length, sensitive to temperature, both in myself and in a number of others. Some individuals do not distinguish clearly the temperature of a body in the œsophagus, but I have not found them as numerous as those that do. In one individual who was subject to certain dyspeptic attacks, accompanied by eructations, the temperature-sense in the œsophagus was apparently increased during the attacks. The tests were made with cold and hot water, at a temperature of 4° C. and about 50° C. The passage of the substance can, in my own case, be distinctly traced from one end of the œsophagus to the other, as a sensation of heat or cold. On entering the stomach, a slight sensation is felt, but this is by no means so clear as that from the œsophagus.

The usual statement of the parts endowed with temperature-sensations does not include the conjunctiva, but this is really quite sensitive.

From all this, it follows that the end-organs for the sensation

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of temperature will have to be found in the œsophagus and conjunctiva, as well as in the places usually named.

The observations can be summed up as follows :—

The parts covered by skin have the temperature-organs in the skin. When the surfaces beneath the skin are tested, they are found insensitive to temperature.

The papillary layer is not necessary for temperature-sensations.

The nerves are generally regenerated in the healing of burns and other scars, except in certain places where the connective tissue is very dense.

To test the sensitiveness of these heat-spots to radiant energy, an apparatus was used, which was essentially like that described by Pollitzer (7). It consisted of a Paguelin's thermocautery, which could be brought to bear over a hole in a thermally opaque diaphragm. The skin to be examined being brought beneath the hole, at a given instant the hole was uncovered and the heat fell on the skin beneath. The time which elapsed before the individual felt heat was recorded. In this case it was permissible to use the time as the measure of sensitiveness, for within the region experimented on the thickness of the epidermis was practically constant. Moreover, testing the various distances at which the glowing point was just perceived, gave similar results. By thermal stimulation cold, heat, and neutral spots were carefully located on the skin, and then marked. The patient was ignorant as to which was to be exposed. The glowing point was fixed at a constant height, the skin uncovered at a given signal, and the patient reacted to his first sensation. This was repeated three times for each spot in every experiment. The circle of skin exposed was 2 mms. in diameter. A typical series of results is given :

On J. V. D., March 10th, 1885.

Distance of point in mms.	Spot.	Time in seconds.	Character of sensations.
8	Heat-	3	Strong.
8	Cold-	25	Very slightest.
8	Neutral	30	No sensation.
8	Neutral	30	No sensation.
8	Heat-	3	Strong.
8	Cold-	16	Very slightest.
8	Cold-	40	No reaction.
8	Neutral	30	A mere breath.
8	Heat-	16	Strong.

It will be noticed here that sometimes a sensation of heat is recorded for other than heat-spots. In some cases it is, I think, simply an error of experiment, as in the sixth observation in the table above, where I presume a slight displacement of the hand exposed the edge of a heat-spot and thus gave a sensation. The very faint reaction sometimes obtained at points which gave no

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reaction on ordinary stimulation with a warmed point is, I think, due to spots sensitive to heat but brought into action at a comparatively high temperature only.

It is to be mentioned, however, that these faint sensations were never distinctly localised, while the strong sensations which followed the stimulations of a heat-spot were very sharply localised indeed.

An attempt was made to test the cold-spots by the same method, but it did not succeed, it not being possible to get a low enough degree of temperature to give a good working-distance for the apparatus. It was of course noticed with these spots, as with the whole skin, that the thermal sensation when roused lasted some time after the removal of the stimulus, in some cases several minutes. This is often a disturbing element in certain experiments, for it is not always clear whether a given sensation comes from the spot at which the stimulus is acting, or from the spot at which it just acted. It is this fact which contributes largely to the continuity of the sensation of temperature when a stimulating body is drawn over the surface of the skin.

Having done this much on the subject, I received Goldscheider's (2) account of his own researches. The new points in his paper bearing on heat-sensation were—the number of spots found; their distribution; mechanical stimulation; their insensibility to pressure or pain; temperature-sensations from stimulation of nerve-trunks; and the increased discriminative sensibility on these spots.

In his maps the points are represented as much more numerous than they are in those presented by either Blix or myself. This is without doubt due to the fact that more intense stimuli, both for heat and cold, were used by Goldscheider than by either of us. His method was practically the same as that of Blix. Regarding the arrangement of these spots, both for temperature and pressure, his latest view is that they lie in lines radiating from centres, that these centres often coincide with the hairs in the hairy portions of the skin, and that in the hairless parts the arrangement is apparently the same. This statement I have not yet tested. He points out that these spots for both heat and cold can be roused by mechanical stimulation; a slight tapping over the surface where a temperature-spot is located giving rise to the sensations of heat or cold, the latter responding the more readily of the two. These experiments I have repeated, and the results are certainly very striking. Puncturing a temperature-spot also gives rise to temperature-sensations.

Moreover, he points out that these spots are insensible to pain or pressure. Repeating these experiments, I find complete analgesia in these spots, for a needle can be run into them without giving the slightest sensation of pain; but at the same time I have not been able to satisfy myself that I do not feel pressure.

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In certain cases Goldscheider succeeded in getting sensation of temperature by electrical stimulation of the nerve-trunks in the arm, back of the hand, &c.

These observations I have also repeated, using very strong electrical currents which gave almost continuous pain, as recommended by Goldscheider. By stimulating nerves in the back of the hand, I have succeeded in getting peripheral sensations of both heat and cold, the latter sensation being the more frequent. The sensation was localised in small areas in all the cases which I observed.

I am able also to corroborate his statement that the discriminative sensibility is much finer for temperature than for tactile sensations.

Since the receipt of Goldscheider's paper, I have been able to make one independent contribution to this subject, which, so far as I am aware, is new.

Dr. M. Warfield called my attention, a short time since, to the fact that in a certain operation on the eye by Dr. Russell Murdoch, cocaine having been used, the patient recognised the presence of the knife on the eye by a sensation of cold. By the courtesy of Dr. Murdoch, I was enabled to examine the eyes of several patients at the Baltimore Eye and Ear Hospital. When the eye in these cases was completely insensible to pain, and felt no contact whatever, cold and warm bodies were readily distinguished. This observation I have been able to repeat on my own eye. By means of 5 per cent. solution of muriate of cocaine the eye was rendered completely insensitive to pain or contact, but still readily felt heat and cold.[1] Here we have the

[1] At the end of a brief account of this action of cocaine, published in the *Maryland Medical Journal*, I requested observations on the temperature-sense by those who had occasion to use cocaine in the throat. Dr. John N. Mackenzie at once took up the matter, and has kindly furnished me the following summary of his results :—

"Six patients were taken for experiment. The uvula and soft palate, and afterwards the nasal passages, were first bathed in a 4 per cent. solution of the muriate of cocaine. When anæsthesia of the parts was complete, a silver probe, which had been previously immersed in a mixture of ice and salt, was carried over the parts, rendered beforehand insensible to contact and pain, as tested in various ways. A distinct sensation of cold was in every instance complained of.

"The opposite extremities of the same probe were next heated over the argand burner of a lamp used for laryngoscopic purposes, and in its heated condition made to impinge upon various spots in the anæsthetised area. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers in regard to the sensation of heat. In three of the cases, the application of the heated probe left an eschar, and in one a pretty severe pharyngitis developed, yet at the time of application no pain was felt, though the temperature-sense remained intact. None of the patients were aware of the purpose of the experiments or the previous preparation of the probe."

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temperature-sensations completely isolated from the other dermal sensations in a way which is now capable of easy repetition, and important as furnishing another argument for the independence of the thermal apparatus.

3. *Theoretical.*

The wider bearings of these results have been insisted on by both Blix and Goldscheider, but it may not be amiss to call attention to them here. The view of Weber (5), that we have but a single apparatus for both pressure and temperature, was mainly based on the fact that he did not succeed it separating the spots on the skin from which the two sensations were roused, and that a cold body felt heavier, a warm one lighter, than one at the temperature of the skin. But Szabadföldi (8), using disks of wood heated to 50° C. and above, found that warm bodies were felt heavier than those not warmed, so that the force of the latter argument is much weakened.

Wunderli's (9) experiments showed that at obtuse points, as on the back, a touch with cotton wool and the approach of a warm body were sometimes confounded. If these experiments are taken to show a common origin for temperature and sensation of pressure, which by no means they do, then, as Blix points out, we must admit that heat, cold, and pressure of a certain grade are all identical, an idea which is absurd.

Against the view of Weber, there was, from the start, the objection that the temperature-sensations and discriminative sensibility did not vary *pari passu*, as might have been expected from his theory.

Further, there is the pathological evidence.

Brown-Séquard (10), and also other observers, have noticed that, in certain cases where the sensibility of the skin is abnormal, the pressure-sense and temperature-sense are not equally affected; in fact, in some cases one may entirely disappear and the other remain intact. Evidence has also been brought forward to show that these two sensations pursue different paths in the cord.

Recently Adamkiewicz (11) has called attention to the fact that a sinapism has a different effect on temperature and tactile sensibility, for the sinapism causes no effects of transfer for temperature, while it does for the tactile sensations.

Herzen (12) has found that when the arm is made to fall "asleep" tactile sensibility is first abolished, then sensibility to pain; with the former the sensibility to cold disappears, while that for heat remains and does not disappear until the arm becomes insensitive to pain. Testing the rapidity of the transmission for the sensations of heat and cold, he found that the relative rapidity was as 3 to 2. He adds the clinical fact of a woman who had no sensation of temperature from bodies below

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27° C. In this case the *post-mortem* showed the posterior columns of the cord in an atrophied condition. He suggests then that the sensations of cold and pressure pass through the posterior columns, while heat and painful sensations are transmitted by the grey matter.

As bearing directly on this question, the action of cocaine above described may be referred to.

Brücke (13) has called attention to the fact that in some cases we get different reflexes according as pressure or thermal stimulus is used.

The recent writers, Funke (14), Hering (15), and others, have assumed a special apparatus for the temperature-sensations on account of the distinct modality of the two sensations. So far as I know, the observations of Herzen (12), mentioned above, are the most important evidence for the duality of the temperature-sense itself.

Previously, there were various theories current as to how one apparatus could give rise to two sensations as clearly distinct as those of heat and cold.

Weber (5) put forward the view that it was the act of rising or falling in temperature which roused the thermal sensations. Vierordt (16) explained it as due to the direction in which heat was passing: when the current was directed from without inwards, we had the sensation of warmth; when from within outwards, the sensation of cold. Hering, relying mainly on his contrast- and exhaustion-experiments, considers that we have a single apparatus excitable in two ways, the two sensibilities standing in such relations to one another that, as one is exhausted, the other is reinforced. Goldscheider (12) rejects this notion of the double action of a thermal stimulus, on the ground of certain experiments mentioned in the first part of this paper. I have repeated these experiments and can fully confirm the results. We have then to look upon our temperature-sensations as mediated by two distinct sets of nerves, each set being quite independent of the other. The excitement of one set gives a characteristic sensation recognised as cold; the other, a different sensation recognised as heat. The theory cannot be made to turn on the question as to whether the special nerve is gaining or losing heat; for, as these experiments show, the results can all be obtained with mechanical stimulation. As regards the after-action, on which so much stress has been laid, this, as Goldscheider remarks, is a purely nervous phenomenon quite independent of any changes of temperature.

The bearing of these observations on the measurement of the sensibility to temperature-differences is considerable, and there seems little doubt that the work designed to test the application of the psychophysical law to the skin—with its great average-error—will have to be at least reviewed in the light of these new observations. As to their influence on the methods of testing

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the skin, it would be unsafe to predict. Eulenberg (3), in a very recent paper, advances the idea that both for pressure and temperature we must still, as in the past, test on surfaces and not on points.

This investigation has brought to light some new facts and results, which have, without doubt, their greatest importance in controlling other lines of work. Some of these results, as I have endeavoured to show, were independently worked out in this Laboratory: but, in presenting a claim for independence, I hope that I have still made it clear that to Blix belongs the priority; that Goldscheider's paper is very careful and complete; and that I am in a large measure indebted to both these observers.

My thanks are due to Prof. G. Stanley Hall for his aid and advice during this work. I also gladly take this opportunity to thank all those who have kindly placed themselves and their time at my disposal for experiment, and otherwise assisted me in this research.

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23rd March, 1885.

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VI.—DISCUSSION.

MILL'S PROPOSITIONS AND INFERENCES OF MERE EXISTENCE.

By J. H. Levy.

In considering Mill's doctrine on this subject, it is best to commence with his statements respecting inductions of bare existence.[1] These alleged results of the inductive process may be considered the *summa genera* of such forms of predication; and it will be convenient to start from them and work downwards.

"With respect to general propositions of this class," says Mill, "that is, which affirm the bare fact of existence, they have a peculiarity which renders the logical treatment of them a very easy matter; they are generalisations which are sufficiently proved by a single instance. That ghosts, or unicorns, or sea-serpents exist, would be fully established if it could be ascertained positively that such things had been even once seen. Whatever has once happened is capable of happening again; the only question relates to the conditions under which it happens. So far, therefore, as relates to simple existence, the Inductive Logic has no knots to untie."

Now, I quite agree that "as relates to simple existence, the Inductive Logic has no knots to untie". But, where there are no knots naturally, we may, through that maladroitness in holding the threads of a complex investigation which is more or less an attribute of every human being, make a tangle; and that, in my opinion, has been done. It will always be to me a puzzle how a man of Mill's ability could so easily have reconciled himself to the notion that there is a whole class of generalisations each of which is (or may be) proved by a single instance. If this were true, instead of dismissing it with the remark that it affords Inductive Logic no knots to untie, I would say that it would be so extraordinary a phenomenon that, until it was adequately accounted for, the foundations of inference would remain a mystery.

I would first contend "with respect to *general* propositions of" existence, that they do not exist, or—to put the matter more clearly—that these alleged *general* propositions are not general at all. A general proposition is one actually or potentially in the form "Every x is y". In propositions of existence, y = existent;

[1] *System of Logic*, vol. ii., pp. 143-4.

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and a *general* proposition of existence is one which can be put in the form "Every x exists". But this is a meaningless formula. The universal quantification of the subject strips the predicate of existence of all significance. When we say "Every diamond is combustible," we mean that every diamond in this universe of ours has the attribute of combustibility. If we say "Every diamond exists," we mean that every diamond in the universe has the attribute of existence. But, if we mean this we mean nothing; for the proposition is as vapid a verbal one as ever had conferred on it transcendental honours.

When I say "Every x is y," I mean that, within the limits of this universe, whenever and wherever x is found, y is found. When I say "Every x exists," the only legitimate sense which can be attached to the words is that, universally, whenever and wherever x is found, it exists. This is an identical proposition; and the fact that it is so disposes, once for all, of universal propositions of existence.

But, if there are no general propositions of existence, there are no inductions of existence, for the inductive process always results—potentially at least—in the proof of a general proposition. What, then, are the instances given by Mill? Beyond a doubt, they are particular propositions. "Sea-serpents exist" does not mean "Every sea-serpent exists," which is nonsense; but "Some sea-serpent exists". There is no mystery whatever, therefore, in the fact that a single instance establishes it. If I were to see a sea-serpent, I could not, from that fact alone, and without calling in the aid of biological knowledge outside of that special experience, infer the existence of other sea-serpents. What rational person would infer from the observation of a particular picture or building the existence of an indefinite number of similar pictures or buildings?

I now go one step further; and maintain that "Some sea-serpent exists" is not, except in mere form, a proposition of existence. It is identical in meaning with "Some serpent inhabits the sea," which is a proposition of co-existence, and means that the attributes connoted by the term serpent and that of inhabiting the sea are sometimes found together in the same thing. It makes no real difference that, instead of one of the attributes being put for a predicate, they are all put together in the subject. To say that a sea-serpent exists is to say that the various properties which make it up co-exist. All propositions, therefore, which are formally predicative of existence, but whose subject is analysable, or connotative of two or more attributes, are really propositions of co-existence.

All propositions may be thrown into the existential form. "Man is mortal" may be rendered "No immortal man exists"; and "Some swans are black" may be stated as "Some black swans exist".

Let us now see how far we have travelled. There are no

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general propositions of existence. There are, consequently, no inductions of existence. The instances cited by Mill as general propositions of existence are not only not general propositions, but they are not propositions of existence. Indeed, the vast majority of propositions which pass as existential are not so except in mere verbal arrangement. What have we left? Propositions which are existential in form, and whose subject denotes a single attribute or none at all.

Let us now examine what is the real import of these. If we take first those which assert the existence of a single attribute, we find the process of elimination still forced on us. Suppose we say "Whiteness exists," or "Wisdom exists". Do we intend to assert that whiteness and wisdom are found as isolated phenomena? Assuredly not. We mean that they are *qualities* of some of the things we know, which is one way of saying that they co-exist with other qualities. If it were otherwise, we should not say that they exist; for we have no evidence of them apart from the things of which they are attributes. They are abstractions; and, as such, we need to be very careful in interpreting assertions of their existence. We never know clearly what a proposition is intended to assert till we see what is involved in its denial; and this is especially true of the class of propositions we are now considering. It would be very difficult even to guess what a person who denied the existence of pleasure was 'driving at,' if we had never come across the notion that pleasure is the mere negation or cessation of pain.

So again with propositions of which the subjects are non-connotative. If I say "Paris exists" to a man who does not know what is denoted by "Paris," the proposition conveys to him no meaning but the verbal one that something is called Paris. If, however, he *does* know what I intend to point out by "Paris," the proposition asserts for him the co-existence of the congeries of phenomena which go to make up the capital of France.

So far, then, we meet with no real proposition of existence, and, therefore, no inferences of existence. Last of all we come face to face with the assertion made by various great writers that out of the possible reach of our cognitive faculties there exists something whose irrelativity is expressed by such terms as the Absolute, Unconditioned or Unknowable. With this, as a philosophical doctrine, I am not here concerned. I refer to it solely in its connexion with the theory of predication. Mr. Herbert Spencer says of this Unknowable that "it is the abstract of *all* thoughts, ideas or conceptions. That which is common to them all, and cannot be got rid of, is what we predicate by the word existence."[1] The word existence is here defined so as to make it mean the Unknowable; but this empties the statement that the Unknowable exists of all meaning. If I understand Mr. Spencer's doctrine aright, it is that we have or may have, a *consciousness* of something

[1] *First Principles*, p. 95.

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unconditioned, but not a *knowledge* of it. If so, I have nought to say with regard to this consciousness; for it cannot be stated in propositional form. When a proposition has for its subject the Absolute or Unknowable, it must be either meaningless or absurd; for the predicate must convey some information or none, and if the former, it stands in contradiction to the subject.

Propositions of mere existence, then, when they are not mere figments, are variant forms of other kinds of predication. Mill's defence of them against Professor Bain[1] really amounts to a surrender; for, according to it, the assertion of existence is only a disjunctive assertion of co-existence, sequence, or resemblance; and therefore has, on his own showing, no right to a separate place in the classification of the heads of predication.

IS THE DESIGN-ARGUMENT SCIENTIFIC?

By H. M. STANLEY.

By 'scientific' we understand—in accordance with the method and spirit of natural science. The scientific spirit is the ruling factor in present culture and the unique intellectual characteristic of this age. In past periods various elements of culture have ruled, but never before in the history of human progress has the scientific spirit achieved the ascendancy. In Hellas art and philosophy were ruling powers, and in Rome politics was dominant; but in both natural science played but an obscure part. In the Middle Ages the theological and religious spirit was the *Zeitgeist;* while to-day every department owes allegiance to science. Industry is plainly coming more and more under the rule of science, is losing its empiric character and becoming scientific. The realism and analytic character of recent art and literature proclaim the influence of science. Psychology, History and other like branches are being rapidly made scientific. Finally, perhaps the greatest intellectual conflict of this age is with respect to the question whether religion and theology can be validated in like manner. Whether science is to maintain this supremacy indefinitely is difficult to say.

Science interprets not the universe by man, but man by the universe. It goes outward, and seeks to regulate that which is within by what is discovered of that which is without. It disclaims all automorphism and anthropomorphism. Man is a part of the universe, and inevitably correlated with it. Let not man, says science, in his self-sufficiency lay down theories, philosophies, cosmogonies, theologies, out of his own consciousness; but let man know and obey nature, and thus attain power by obedience. It is useless for man to propitiate the gods he has

[1] *System of Logic;* 8th ed., vol. i., pp. 112-113, note.

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set over nature, but, if he will be master of himself and his environment, let him know nature and act accordingly. Science, moreover, is characterised by great clearness and distinctness. Science acknowledges the darkness of the unknown beyond its light, but only the ever-widening circle of light is science. It is, furthermore, ever to be kept in mind, as Prof. Huxley insists, that science is merely an extension and organisation of common-sense; it rests upon the assumption and speaks the language of common-sense realism. Philosophy always lies behind science, and the postulates of science are the problems of philosophy. The object of this paper is to inquire how far Teleology may thus be ranked as science.

Teleology investigates intelligence in nature; Objective Psychology investigates intelligence in other beings than the individual investigating. It is generally acknowledged that we attain a knowledge of intelligence in other beings than ourselves by analogical induction, by comparison of their acts and works with our own and inferring from equality of effects equality of causes. Men of science are just at present cultivating with great eagerness Comparative Psychology in regard to infants, savages and animals, and they readily acknowledge that analogy is the only method of investigation.

For instance, Dr. Romanes in his *Animal Intelligence* remarks that "it is evident that in our study of animal intelligence we are wholly restricted to the objective method. Starting from what I know subjectively of the operations of my own individual mind, and the activities which in my own organism they prompt, I proceed by analogy to infer from the observable activities of other organisms what are the mental operations that underlie them." Other passages might be cited from Dr. Romanes's more recent work, *Evolution of Mind in Animals*, from Lauder Lindsay and from many other writers, to the same effect. There are thus several well recognised departments of Psychology, which have the same object as Teleology, *viz.*, investigation of objective intelligence, and the same method, analogical induction; and hence, if there be a science of Teleology, it is a department of Comparative Psychology. The Cartesians denied intelligence to animals, and so also a science of intelligence in animals; and those who deny intelligence in nature deny of course a science of intelligence in nature; but if there is a scientific Teleology, its place is as the crowning department of Comparative Psychology.

The perception of order and capacity for ordering grow up in interdependence. Perception of order precedes an ordering by man, since every adapting of means to ends presupposes knowledge of means—an order in nature of which man takes advantage. Designing by man presupposes knowledge of order and function in nature, but this knowledge may exist as pure science without reference to application. However, the discovery of order is *per se* an end, and designing with reference to at-

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taining further knowledge is plainly dependent upon past knowledge and past design. A man to know must design, *viz.*, at least attend, and dispose organs; and to design must know, since knowing is perception of order and adaptation in nature and man, which can be taken advantage of by man. Does this interdependence of knowing and designing prove design in nature? It was the *dictum* of Prof. Baden Powell that whatever requires intelligence to apprehend, requires intelligence to originate. The intelligible can only arise in intelligence.

It is certainly natural to conceive that what appeals to our thought arises from thought, for we know that what requires our intelligence to comprehend would require our intelligence to execute. Since the perceiving of order implies the capacity of conceiving ourselves as originating intelligence throughout the realm of knowing, Fichte came to interpret the All as arising in the subjective intelligence. But conceiving ourselves as originating, or other intelligences as originating, is not proof that in reality there is this origination in intelligence. It is from this point of view conceivable and possible that the order of nature arises from design, but science rests not upon the conceivable and possible but upon correspondence with reality proved by facts; hence the belief that there is design in nature, if it will have a scientific basis, must rest upon analogy, the principle of equality of causes for equality of effects, which is the principle employed by science in investigating design in fellow-men and fellow-animals. Science, of course, employs the term 'cause' in the popular unreflecting way, without any reference to metaphysical doctrines.

The first process by which the man of science attains a belief in design by other beings is inference from observed activities. Many scientific observers have seen monkeys obtain oysters by breaking open the shells with stones used as hammers; and from this action and other actions, by referring to their own experience and accepted human experience, they have supplied the fourth term of this compound ratio—

Human acts : intelligence : : acts of monkey : x (intelligence).

Three terms are given, and the fourth is added through sense of relation, the relation of equality of causes for equality of effects. The teleologist, putting for the third term activities of universe, adopts a precisely similar ratio. The universe is an indefinitely extended single being whose activities are orderly and adaptive, and hence by parity of reasoning with previous case, they arise in design.

What now are some of the reasons why the design-argument is not generally accorded by men of science the scientific position which this parallelism points out?

In the first place, there is an objection from Physiology. The recent great progress of physiology as showing a constant correlation of mind and nerve, has led many inquirers to lay down as

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an axiom that nerves are indispensable to consciousness and intelligence of any kind; hence Prof. Clifford went so far as to demand that teleologists should discover some huge cosmic brain, if they wish to give a scientific character to their speculations. Dr. Romanes in his recent book, *Evolution of Mind in Animals*, assumes, as a scientific axiom, that a nervous organism is essential to the possession of intelligence. The ordinary method of physical science has been to separate the workings of nature from rational action, as being merely redistribution of matter and motion, which are orderly and adaptive, not by virtue of intelligence, but because of chance, necessity or some such metaphysical entity. The tendency of the most recent science, however, is toward agnosticism, which rather presumptuously denies the capacity of the mind for ever solving satisfactorily the problem of the origin of the order of the universe. That nature is full of order and adaptation is the basis of all science; but it is seriously questioned whether this order and adaptation arises in intelligence; although if it occurred in connexion with a nervous organism, it would readily be recognised by science as arising in intelligence. On the other hand, Teleology claims that order and adaptation are universally good evidence of intelligence whether discerned in connexion with a nervous system or not. In the former view there is exaltation of manner, in the latter, of matter of activity.

It is to be remarked with reference to this physiological objection, that men inferred intelligence in bodies from their activities long before the nervous system was discovered, and that the great majority of mankind at the present day are wholly dependent for their knowledge of individual objective intelligence upon inference from activities, there being complete ignorance of the physical organs of intelligence. It would seem that the kind of activity as orderly and adaptive is more important than the basis of activity in material organism.

Again, this physiological objection may be combated as anthropomorphic; as may also the objection so often made, that the regularity of phenomena, the inexorable law, revealed by science, destroys the theory of intelligent choice in nature. Science reveals nature as a whole, stretching away indefinitely into minuteness as Chemistry reveals, and into largeness as Astronomy reveals; and science points out that man is intellectually limited by being physically part and parcel of this great wheel of nature. If this be so, it is evident that man is apt to interpret as rigidly mechanical and unalterable that which so far transcends him in space and time as to appear so. Give intelligence to one of the millions on millions of red corpuscles in the human blood, and in its speck of a lifetime, all that occurs about it in the organism of which it is a part must seem mere mechanism. Even so the man of science, who is in space and time but as a corpuscle in the being of nature and God, inclines to

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a mechanical theory, and doubts or remains agnostic as to a teleological theory. The largeness of the scale upon which the intelligence in nature works and the relativity of our knowledge must be taken into consideration. Taking this scientific view of the universe, it is anthropomorphic to suppose that all intelligence must be fitted with the same organs which we possess.

A second objection is that the analogy between man's works and nature's is not sufficiently close to be a scientific argument for intelligence in nature. This objection has been strongly urged by Hume and many other writers. With reference to this, it need simply be said that the closeness of the analogy between man's industry and nature's is constantly being made more and more apparent. Taking the classic example of the eye, the analogy is now (*pace* Helmholtz) by reason of scientific and mechanical progress very much stronger than it was in the time of Socrates and even of Hume.

The method of inferring from the noticed acts of a being that this being has conscious intelligence, as applied to the universe, leads to a Pantheistic conception. All the activities of nature as being orderly and adaptive are interpreted as arising in intelligence, even as the orderly and adaptive activities of a fellow-being, a man, are interpreted as proceeding from intelligence. This kind of teleological interpretation of nature has not received the attention it deserves, although in the case of animals and fellow-men it is most common and natural. The modern scientific conception of the unity of natural forces makes this interpretation of nature very easy. In this Teleology God is intelligence and power immanent in universe, just as Psychology regards man as intelligence and power immanent in the human body.

The second teleologic process which is common to Teleology and other sciences, as Archæology and Comparative Psychology, is the method of inferring intelligence from products and remnants of action. This is more indirect than to infer intelligence from activities, and consequently involves greater liability to mistake. To have seen a man hoeing avails more as evidence than to have seen marks which are attributed to a hoe. The comparative psychologist infers by analogy from watching the action of a savage that he has power of design, is consciously intelligent; but the archæologist infers that a mere bit of chipped flint—to the ordinary eye, a natural object—is a machine, a product of savage design. This argument from machine to mechanician has always been the common argument of Teleology. The eye, the human body, the earth, the universe, are wondrous mechanisms, which could only have originated in superhuman intelligence.

This method as applied in Teleology gives a Deistic conception. The universe is a great machine, a practically infinite orderly succession of second causes, which as orderly and adaptive by analogy to man's works has originated in conscious intelligence. In pure Deism the universe is a machine which Deity originally

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wound up and set agoing, and which runs on without any intervention. Other forms admit intervention, and make God not only fabricator but also engineer. Hume's objection that we are acquainted with watch-makers but not with world-makers, supposing the principle not directly questionable, may be answered from the point of view of Pantheistic Teleology, that we have as direct acquaintance with the universe as with men.

Pantheistic and Deistic Teleology may be united in a scientific Theism, just as the mechanical and psychological views of man are united in a scientific Anthropologism. The physicist views the human body as a mechanism, and he traces already a long series of physical causes and acknowledges that there is a practical infinitude of causes still to be traced. The physicist applies a mechanical theory to the universe, and interprets it as a practically infinite closed circle of physical causes. The scientific psychologist finds the human body to be, not merely a closed circle of physical causes, but more, an embodiment of conscious intelligence. The psychical series does not add to physical force, does not intervene in the physical series, although associated with it. The two series do, however, in some unknown way mutually influence each other. As to the character of the relation, this is at present outside the field of science, and in the field of philosophy and speculation. Science recognises as a fact a sense of initiation in consciousness, and it bids us keep on willing as if we had some control over the course of events. If realism and the doctrine of free-will are illusions, science is not concerned, as its basis is simple common-sense. The human consciousness is, according to present science, both transcendent and immanent with reference to the series of physical causes. The physical series goes on simultaneously with the psychical, and in direct connexion with it, not in any pre-established harmony; there is interpenetration, yet the psychical series does not intervene in the physical. The psychical thus lies outside of and transcendent to the physical, no psychical link taking the place of a physical or *vice versâ;* yet there is immanence, each psychical link being correlated with a physical. As there is scientific basis for transcendence and immanence of intelligence in man, so also there may be for intelligence in nature. Deism finds its analogue in the notion of a spiritual substance wholly transcendent to the physical series in man, and intervening in it. Pantheism, in the form which makes God equal to the universe, finds its analogue in anthropological materialism. How this method of treating Teleology is related to evolutionism in its complete form, has been considered by the writer in the *New Englander* for September, 1883.

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VII.—CRITICAL NOTICES.

Types of Ethical Theory. By JAMES MARTINEAU, D.D., LL.D., Principal of Manchester New College, London. 2 Vols. Oxford: Clarendon Press, 1885. Pp. xxiv., 479; viii., 539.

All English students of Ethics who are acquainted with the polished and powerfully written essays on philosophical subjects which Dr. Martineau published, in collected form, sixteen years ago, and who are at all aware of the influence that he has exercised for a longer period over successive generations of hearers, will have hailed with satisfaction the appearance of these two volumes. And their expectations of pleasure and profit to be derived from the work—especially from that part of it in which Dr. Martineau's own ethical view is expounded—will not be disappointed. Whether, indeed, the book will contribute materially to turn the tide of opinion, which has long drifted steadily away from the ethical position that Dr. Martineau adopted in past years and still maintains, is a different question; to which, perhaps, I am hardly able to give a sufficiently unbiassed answer. I will try to do what the limits of a Critical Notice allow, to enable my readers to answer it for themselves.

The plan of Dr. Martineau's treatise is that of "placing the positive construction of doctrine at the centre, midway between two wings of critical analysis". The true method of ethics, as he conceives it, is essentially psychological; it starts with the moral sentiments of the self-conscious man, which it is the business of ethics "to interpret, to vindicate and to systematise". It is admitted that "in dealing with its problems it is impossible to remain within the limits of self-interrogation—it is inevitable that ethics should run out beyond the circle of mere introspection, in order to determine" the relations which man bears to Nature and to God; but it is an essential characteristic of the true ethical method that it "begins from the self-conscious man, as better known, treats the phenomena so found as genuine phenomena," and "gives to reflective self-knowledge precedence, in ethical relations, over other knowledge". It is therefore contrasted, in the first place, with "Unpsychological" theories, which give priority to the investigation either of Nature, considered as the "totality of perceptible phenomena," or of "the eternal ground and cause whose essence they express". But, in the second place, the true method of ethics, we are told, is not only psychological, but "Idio-psychological"; it not only starts with the moral sentiments, it also "vindicates their independent character" and resists all efforts to reduce them to some other species of mental phenomena. It is therefore opposed to all systems which "slur the boundaries" of our several faculties

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and attempt to "make out that the moral differences which they are engaged in cross-questioning are only *sensational* differences under skilful disguise; or, it may be, *intellectual* differences in an emotional form; or, again, *æsthetic* differences brought with an *alias* into court". Such systems—which are all "fairly reducible" to the three varieties just distinguished—are designated by Dr. Martineau as "Hetero-psychological"; and he places his criticism of them after the exposition of his own "Idio-psychological" doctrine for the important philosophical reason that we ought to ascertain the "story" that the moral consciousness "tells of itself," before we attempt to "evolve the moral from the unmoral phenomena of our nature". On the other hand—if I mistake not—his reason for placing his criticisms of "Unpsychological" theories first is rather a historical one. "Psychological ethics," he tells us, are "altogether peculiar to Christendom"; the Greek schools are "all essentially unpsychological and objective,"[1] and it is therefore, in accordance with the order in which thought has actually developed itself to begin our study of ethics with the "Unpsychological" scheme of Plato. We find, however, that, in order to complete the critical survey of this species of error, in its most appropriate types, we have to go down the stream of time to the 19th century. For while Plato and Spinoza are offered as the most instructive examples of the fate of ethical theory when based on Metaphysics instead of Psychology — being mutually contrasted as representing respectively the "system of transcendency" and the "system of immanency"—the most perfect type of a purely physical doctrine of morals is found in Auguste Comte. On the whole, therefore, historical grounds are only allowed a very subordinate place in determining the arrangement of Dr. Martineau's critical results. Plato, Spinoza with his predecessors Descartes and Malebranche, and Comte, occupy the first volume in chronological order; but Clarke, the antagonist of Spinoza, and Hobbes, who was to some extent Spinoza's master in ethico-political speculation, are relegated as "Hetero-psychologists" to the latter half of the second.

The contrasts which this arrangement suggests are no doubt instructive; and Dr. Martineau's own view is more sharply and clearly defined for us by its many-sided opposition to the other doctrines discussed. Still a treatment so disregardful of historical order almost inevitably sacrifices the more positive part of the instruction which the study of our intellectual ancestors has to give us. The use of Plato and Spinoza, as presented by Dr. Martineau, is a purely negative one; they are not stages in a continuous process of development towards the fuller and clearer ethics at which we have now arrived, but merely sign-posts to show us the path which the human mind should *not* take in the

[1] I have not space to exhibit as I should like to do the amount of error that appears to me to be involved in this sweeping statement.

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pursuit of ethical truth. I am far from implying that this polemical attitude has made Dr. Martineau's treatment of these thinkers in any degree unfair, or, on the whole, seriously unsympathetic. I do not doubt that he is as genuinely anxious to "save what is imperishable" in the philosophy of Plato and Spinoza as to confute what is erroneous; and there is argumentative force as well as rhetorical persuasiveness in the apology he offers for his strictures on Plato:—

> "Philosophy aspires to rise above the transitory and gain the vision of eternal truth; and it pays the penalty of this proud pretension in being tried by codes and courts for ever new, and having to satisfy the claims of all. Appealing to the absolute, it forbids us to give it only an historical hearing; and we should do it its most aggravating wrong, did we not bring it face to face with the accumulative experience and matured insight of the human mind."

No doubt, so long as the admirers of a great historic thinker will not suffer him to keep his place in the past, but insist on presenting his works as a perennial source of philosophic truth, it is inevitable that we should handle these ancient treatises in a critical and polemical and not merely historical manner. Still, it is important that our criticism and controversy should be based on a careful study of their historical relations; because this alone can enable us to enter into their point of view sufficiently to make our criticism profitable; this alone can save us from the error of unconsciously mixing modern categories with those of an earlier period, and expecting a definite answer to questions which were not within the view, or only just within the purview, of the thinkers whom we are studying.

And if this is generally true, there is no ancient thinker of whom it is more true than Plato: since the ethical thought of Plato—whether we consider it in itself or in relation to his metaphysics—is not presented to us anywhere as a settled system, but rather as a process through a series of stages from the starting-point of Socrates to the fully formulated and articulated result of Aristotle. To understand the earlier stages especially, we have to keep before our minds the influence of the master: while for the comprehension of the ultimate drift of Platonic speculation the formulæ of the disciple give us invaluable assistance. What strikes me as erroneous in Dr. Martineau's rendering of Platonic ethics is, I think, chiefly due to his neglect of its historical relations. Thus he attributes to Plato a "preference of voluntary pravity to involuntary—a preference openly defended by him against the protest of natural feeling," on the strength of a passage in *Hippias minor*: whereas it appears to me certain that the argument of this dialogue—which belongs to the earliest, most Socratic, stage of Plato's development—is purely "elenchic" and negative in its direct results: the positive doctrine indirectly suggested being that voluntary pravity is impossible, on the ground of the well-

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known Socratic identification of vice with ignorance. 'That no man knowingly prefers evil to good' is a proposition which forms the node of Plato's argument in more than one dialogue: and though his psychology led him to recognise 'discord' in the soul as a source of evil distinct from ignorance, I conceive that he never abandoned his master's position so far as to give the definite positive answer which Dr. Martineau tries to elicit from him to the question of Free-will. This appears, indeed, in the very passage on which Dr. Martineau seems most to rely for proof of Plato's Libertarianism—the passage in the myth at the end of the *Republic*, in which the souls of men are represented as choosing their lots in life. For wrong choice at this crisis of destiny is expressly attributed to ignorance: "our chief care must be, dear Glaucon," says the master, "to discover, each of us, who can give him *capacity and skill*[1] to choose the better life among the possible alternatives." The moral of the fable is, in short, the paramount importance of sound philosophy: for Plato, as for all the schools sprung from Socrates—with the partial[2] exception of Aristotle—the philosophic Reason is the sole natural lord and ruler of the soul. Hence, again, it appears to me to indicate a very profound misapprehension when Dr. Martineau suggests that Plato's fourfold division of Virtue properly implies a fourth principle in the soul, having "dominance over" *νοῦς*, *θῦμος* and *ἐπιθυμία*. He admits that Plato does not "overtly" introduce such a principle: but thinks that he gives "a clue to it" indirectly in the supremacy attributed by him to *δικαιοσύνη*: that he may "have felt that Intellect, as such, could not after all be put upon the seat of guidance, but must itself be made available in the career of life, by a power over it". I think it altogether impossible that Plato—or any other "vir Socraticus"—should have felt this: and I cannot find an atom of support for the suggestion in the *Republic* or any other dialogue.

And this leads me to ask how far Dr. Martineau is justified in characterising Plato's ethical theory as "Unpsychological". I grant that in Plato's ideal system of philosophic thought all judgments as to good and bad in conduct would be applications, to the obscurer region of concrete life, of the clear and certain knowledge of absolute good which the philosopher would

[1] *Τίς αὐτὸν ποιήσει δυνατὸν καὶ ἐπιστήμονα.* I must guard myself, however, from being supposed to rely on Plato's myths as a source of knowledge of his philosophy. Dr. Martineau's statement that "they often express the doctrines most sacred to his faith, though least effectually guarded in his philosophy," seems to me misleading; so far as it implies that Plato kept a place in his system for beliefs which he held to be certain though not philosophically grounded.

[2] I say "partial," because in Aristotle's view the speculative or philosophising reason was in a sense supreme, as its exercise constituted the highest mode or element of human life: though it did not, in his view, furnish practical guidance for the rest of life.

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possess: the premisses of ethical reasoning would be somehow supplied by transcendental metaphysics. But this ideal deduction of ethics is nowhere presented to us as actually worked out in Plato's dialogues: certainly the ethical doctrine of the *Republic*, which Dr. Martineau is mainly occupied in criticising, is reached by the "inferior road" of empirical psychology. Indeed the only part of Plato's ethics definitely traceable to his doctrine of ideas is his view of the essential superiority of philosophic contemplation, in which the soul lays hold of reality, as compared with all other psychical functions or exercises. But this view is in no way dependent on the "transcendency" of Plato's metaphysics: in fact it is more definitely and emphatically put forward by Aristotle whose metaphysical "scheme" is distinguished as "Immanental".

When he passes to treat of Spinoza, Dr. Martineau cannot be accused of neglecting the historical relations of the system which he is mainly engaged in examining: he pays adequate attention to the antecedent doctrines of Descartes and Malebranche—indeed his careful exposition of the latter's system fills an important gap in the history of philosophy, as it has so far been written for English readers.[1] I do not, however, think that he has traced the development of Cartesianism through its various stages with quite the subtlety and closeness of investigation that he has employed on Spinoza.[2] He attributes to Descartes without qualification or reserve the doctrine that body and mind "are incapable of dealings with one another . . . and, for any mutual converse, might as well be at opposite ends of the diameter of the solar system". Now doubtless Descartes was tending towards this position: but there is no adequate evidence that he ever personally arrived at it. I do not think it had ever entered into his head at the time he wrote the *Meditationes*: and it appears to me very important to keep in mind that in the first stage—at any rate—of his philosophy, his fundamental doctrine was not the mutual *incommunicability* of mind and matter but their essential *independence*, proved to the self-conscious mind by the possibility of conceiving matter annihilated. On the other hand, I think

[1] I feel bound to point out a peculiarity in the arrangement of this part of the book, which is likely to perplex readers. Dr. Martineau gives first (pp. 156-193 inclus.) what appears to be intended as a complete exposition of Malebranche's system; and then afterwards (pp. 194-233) what he calls an "estimate" of the system—but in fact one of the most important parts of Malebranche's metaphysics and the whole account of his *Traité de Morale* is reserved for the so-called "estimate," which is therefore to a great extent expository rather than critical.

[2] As it is not very long since Dr. Martineau's *Study of Spinoza* was noticed in these pages, I have—under the urgent necessity of selection—passed over that portion of this new book which relates to Spinoza. I ought, however, to say that it is an independent piece of work, and not a mere *rifacimento* of the earlier *Study*.

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that Descartes maintained from first to last a perfect distinctness in conception between psychical and material facts. When Dr. Martineau says—with rather less dignity of style than usual—that "his logic came to grief when he stumbled on the phenomenon of animal feeling . . . not knowing what to do with it, he awards it sometimes to the corporeal at others to the mental nature"; I think the critic has been misled by mere ambiguities or superficial inadvertencies in Descartes' language, and has overlooked the fact that he expressly extends his term "thought" (*cogitatio, pensée*) to include all psychical phenomena —sensations and volitions as well as operations of the intellect.[1]

Equally mistaken, I think, is Dr. Martineau's attempt to fix a similar charge of confusion on Malebranche, on account of his use of the term "animal spirits"—which the critic strangely seems to regard as an invention of the Cartesian school. At least, I find no evidence to show that Malebranche ever conceived his "animal spirits" otherwise than as purely material: though he seems sometimes to lapse from the strictness of his occasionalist doctrine so far as to regard the movements of the brain as causes of psychical phenomena.

However, the general account here given of Malebranche's system both metaphysical and ethical, is interesting, and—so far as I can venture to judge—in the main adequate. The reasons why Dr. Martineau has allotted so large a space to a writer whom he does not select as a "type of ethical theory" are partly, I suppose, suggested in the following comparison:—

> In (Malebranche) philosophy goes over from the hesitating position in which Descartes had placed it into complete supernaturalism; as, in Spinoza, it passes into complete naturalism. The contrast between them is interesting, as showing the divergent directions which the inevitable struggle for consistency may take, when a system deficient in coherence is seized on and worked out by minds of opposite tendency. Had Spinoza really been influenced by the mystical turn of thought which is ascribed to him, and which at first sight his language sometimes seems to favour, he would have found his task already accomplished by his French contemporary; and his ethics would have repeated, instead of superseding, the *Recherche de la Verité*. But the speculative genius which was common to both men served a different need in each of them; in Malebranche, to give base and persuasiveness to Religion; in Spinoza, to give unity and universality to Science; in the one to exhibit the universe as divine; in the other to prove it "geometrical"; starting in each case with premisses taken from Descartes.

The contrast thus drawn is striking and instructive: and appears to me in the main true, provided the terms "mystical" and "divine" are used in the restricted sense in which Dr. Martineau naturally—and, I think, legitimately—uses them: *i.e.*, as necessarily implying the conception of a Divine Spirit, to

[1] Compare (*e.g.*) the definitions given in his Reply to the Second Objections to the *Meditationes*.

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whom volition and emotion, as well as thought, are attributed, and a personal or quasi-personal relation between the human spirit and the divine. But however much a religious philosopher may legitimately prefer Malebranche to Spinoza, he ought to point out that the former's superiority as a theologian is attained at the expense of philosophic consistency. The God whom Malebranche worshipped as a Christian, and the God whose necessary existence he was confident of proving as a Cartesian, remain in his system two distinct conceptions: no serious attempt is made to derive the former from the latter. Indeed, notwithstanding the horror which Malebranche doubtless sincerely entertained of the impious atheism of his contemporary, there is an almost startling affinity between Spinoza's conception of God, and that which Malebranche appears to have in his mind when he is writing purely as a metaphysician. The idea, he tells us, of the God that necessarily exists is a perfectly simple idea: it is the idea of "l'être en general, l'être sans restriction, l'être infini" as contrasted with "tel être". The reason alone gives us no right to conclude that God is a spirit: it is true that "il doit être plutôt esprit que corps, puisque notre âme est plus parfaite que notre corps"; but reason gives us no assurance that there are not beings "plus parfaits que nos esprits": and indeed it is evident that God being "l'être sans restriction" must "renfermer en lui-même les perfections de la matière". It is clear that we are getting very near to the Spinozistic deity, of which Extension is one attribute; but we get even nearer in a later treatise,[1] quoted by Dr. Martineau, in which we are expressly told that "God is extended no less than bodies"—though not after the manner of bodies, since his substance has no parts.[2] Why such a being, so far as cognisable by reason, should be conceived as "loving himself" or finite things, Malebranche scarcely tries to explain: and he is fain to admit that the attributes of goodness, mercy and long-suffering, which he is doubtless sincere in predicating of God, can only be predicated in a non-natural sense.[3]

[1] *Entretiens sur la Métaphysique*, vii. The phrases before quoted are from the *Recherche de la Verité*, III., ii., 9, and IV., 11.

[2] Before leaving Malebranche's metaphysics I must notice a not unimportant error in Dr. Martineau's account of his doctrine of ideas. Dr. Martineau represents him as holding that "the difference between images or representations and ideas is the difference between knower and known" (p. 260): that "modifications of the mind are confined to the senses and imagination, and do not enter the area of the reason" (p. 204). Now Malebranche undoubtedly distinguished his "ideas" from "modifications de l'âme": but Dr. Martineau does not seem to have observed that he expressly included under the latter term not merely "ses propres sensations" and "ses imaginations," but also "ses pures intellections." (*Recherche de la Verité*, III., ii., 1.)

[3] Cp. *Entretiens*, viii.: "Dieu n'est ni bon, ni miséricordieux, ni patient *selon les idées vulgaires.*"

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I must apologise for having dwelt so long on the metaphysics of Descartes and Malebranche, that I have no space to examine Dr. Martineau's exposition of the latter's ethical doctrine. The fact is that, throughout this first volume, there is a distinct preponderance of metaphysical discussion over ethical; if it were not for the title of the work the reader would never suspect that his attention was being specially called to ethical theories. This is especially true of the last part of the volume, which is devoted to Auguste Comte; of the 105 pages which Dr. Martineau employs on this thinker, not more than a dozen appear to be concerned with his ethical doctrines. But, in fact, when we consider Dr. Martineau's conception of the nature of an ethical theory together with his conception of the proper limits of its treatment in the present work, the difficulty rather is to understand how he can legitimately have found so much to say about the ethics of the founder of Positivism. "The requirements of my subject," says Dr. Martineau, p. 265, "limit me to a consideration of its theoretic base, and withhold me from following it into the practical application"; and by "theoretic base" he means, as another passage shows, a "fundamental doctrine of obligation". But Comte, if I understand him, would as soon think of having a fundamental doctrine of being, as a fundamental doctrine of obligation, in Dr. Martineau's sense. Excluding "metaphysics" from his system, he consistently excludes every possible "theoretic base" of this kind for his Art of Morals —unless the term can be applied to his historical exposition of the gradually increasing ascendancy of altruism over egoism in the course of social evolution. If, therefore, Comte is seriously considered as a systematic moralist, it must be either as a historian of social development in its moral aspect, or as the constructor of a moral and political ideal for the future of society; and the reader will regret that Dr. Martineau, who pays a generous tribute of appreciation to the "wisdom," "noble humanity," and "profound insight" that characterise Comte's work as a practical teacher—in spite of its fantastic details—has not found himself able to dwell on it at somewhat more length. However, both the biography and the exposition and criticism of the Positive Philosophy which he has given us instead are careful, impartial, instructive, and—allowing for the polar opposition of philosophical standpoints—not unsympathetic.[1]

The "varieties of Unpsychological theory" which we have so far been occupied in examining have, in Dr. Martineau's view, the common characteristic that they "leave no room for the conditions

[1] I would especially commend the careful and judicious summary of Comte's debt to Saint Simon, which is here given. This debt is not such as to prevent us from attributing to Comte originality of the first order; but it is too important to be treated as lightly as it has usually been by the English admirers of Comte.

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of moral agency, *viz.*, a well-grounded distinction of better and worse, a real authority in the former, and a free personality to give or refuse its rights". Let us now turn to the "Idiopsychological" method which alone, in our author's view, can duly provide these conditions; let us examine the "story which the moral consciousness tells of itself" through Dr. Martineau as its interpreter.

In discussing this narrative, it will be convenient to begin with the account given of the form of the moral judgment, and the general character of the objects to which it is applied; and then proceed to consider the detailed classification of these objects which Dr. Martineau offers. In the first place the moral judgment is essentially comparative or preferential: its primary form is not "X is right" or "good," but "X is better than Y". "The whole ground of ethical procedure consists in this: that we are sensible of a graduated scale of excellence among our natural principles, quite distinct from the order of their intensity." Hence, to express the "attribute ultimate and essential" which moral judgment predicates, the word "moral worth" is to be preferred, since "duty" and "right" are so habitually used of "single problems and concrete cases, that they . . . do not easily lend themselves to the expression of relative intensities of excellence throughout the whole system of ethical combinations". At the same time, in each concrete case, each separate moral experience, the "duty" or "obligation" to prefer the worthier object to the less worthy is distinctly recognised: though conscience, or the moral faculty, in Dr. Martineau's view, is "the mere inner sense of differences along the scale of impulses," this sense carries with it an authoritative direction to choose the higher. And he holds that these notions of obligation and authority do not merely express a relation—as in the Kantian view—between the autonomous rational self and the non-rational inclinations: "to speak of one part of self imposing obligation on another part is to trifle with the real significance of the sentiments that speak within us". If "the sense of authority means anything, it means the discernment of something higher than we": and as "we" are "persons," this higher something can only be "another Person, greater and higher and of deeper insight". In short, a "subjective conscience is impossible"; the moral preference, *qua* moral, is essentially a preference commanded by God: and since the validity of the dictates of conscience must stand or fall with the validity of their theological implications, the so-called "Idiopsychological" method of Dr. Martineau turns out to be—if I may so say—essentially *Theo*-psychological.

I do not now propose to argue against this view; but I think that the ancient and well-known difficulties involved in it deserve more attention than they have received from Dr. Martineau. If the claim to authority, essentially involved in the recognition by the human mind of moral differences, can only be conceived as

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the authority of "another person," the following dilemma is immediately presented: Is this other Will, in its turn, to be conceived as moral or non-moral? To take the latter alternative, to say that our ultimate obedience is due to mere arbitrary external Will, to which no moral attributes can with any meaning be applied, is a solution from which some theologians have not shrunk; but I conceive that such a view would be repudiated as an offensive paradox by the moral and religious consciousness of most plain men. If, on the other hand, the Supreme Will is affirmed to be essentially a moral will, then the theologian is called upon to explain in what sense the term "moral" is predicated in this affirmation; and since he is manifestly under the necessity of giving it some signification which will *not* involve a reference to an external authority—for the Will was assumed to be supreme, and we cannot have Person set over Person *ad infinitum*—he will have to explain why the essential meaning of moral choice, as attributed to God, cannot also be the essential meaning of moral choice as attributed to man.

And such an explanation is, I think, especially due to us from Dr. Martineau, since it would be difficult to find a philosophic writer whose conception of the Divine Mind is more definitely and confidently anthropomorphic. Not merely does he hold and express with the utmost emphasis—what I trust I may speak of as the 'better opinion' of theologians generally—that religious obedience cannot be due to mere omnipotent Will, conceived without moral attributes; that, entirely divorced from a moral nature, mere power or intelligence could be the object of no "veneration"; that only by attributing to God an "inward rule of Right which gives law to the action of his power," and allowing the validity in man of a "sense of a Divine kindred and a Divine likeness," can we "elevate into 'Authority' what else would operate only as a necessity or a bribe". He goes further than these current generalities; he presses the analogy between Divine and human morality to the utmost extent that common sense and common reverence would permit, in such passages as the following:—

"In expressing their conception of a Divine moral government of the world, men are not content to say, 'God will deal with us according to our works', but 'God *must needs* deal (*i.e., ought*[1] *to deal*) with us according to our works'" (p. 105). Again, "Christianity . . . finds [God] sympathising with the struggles of tempted souls . . . nor is it possible to recognise this sympathy with human probation, without in some way carrying up the light and shade of moral distinctions into His own inmost being. The only question is how to conceive any shadow there and hold the idea of a contrast at all. Is it not impossible that the faintest evil should be in Him? Perhaps the natural answer of Christian feeling would be: *Morally* impossible most assuredly it is; but *naturally*, or otherwise than by preferential affection, not so: the *idea* of the alternative evil cannot be denied

[1] The italics are Dr. Martineau's.

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to Him, without limiting His view of possibilities; the power to realise it, were He intent upon it, can still less be questioned; that He rejects it from his personal determination . . . expresses his active repugnance to it (p. 86).

If we can say, without using words in a non-natural sense, that the distinction of good and evil exists prior to God's choice, that he "ought" to choose good and realise justice, but that it is not impossible for him "otherwise than by preferential affection" to choose evil and do injustice; why can we not similarly conceive of moral choice in man, *i.e.*, without any reference to an external Will?

I am not arguing that Dr. Martineau is wrong in regarding this reference to an authority beyond ourselves as implied in the common notion of moral obligation. According to me, he is wrong not in what he affirms but in what he denies: it is half the truth to say that the moral reason in me which claims authority over my non-rational inclinations is not merely *my own* reason; but it is no less true and no less important to affirm, with the late Professor Green, that it *is* my own, and that "it is the very essence of moral duty to be imposed by a man upon himself".

There is another point of some importance in Dr. Martineau's view of our common moral judgments, which appears to me difficult to reconcile with his account of their theological implications. He holds that the "fundamental ethical fact" is the recognition of merit in a certain choice between alternative principles of self-conscious action: and he contrasts strongly the *moral* choice in which the *highest* of two alternative principles is chosen, from the *prudential* choice in which—as he strangely holds—we yield to the *strongest* impulse. "Among our springs of action," he says, "there prevails a moral scale, according to the order of excellence; and a prudential scale, according to the order of strength": and, if I understand the drift of ch. 3 on "Merit and Demerit,"[1] he holds that the merit attaching to any particular moral choice is proportional to the discrepancy between the moral and prudential scale, as applied to the particular alternative of conduct between which the choice is made. But he also holds that a "belief in a retributory judgment is inseparable" from the recognition of moral obligation: and it appears to me that such a belief must inevitably have the effect of obliterat-

[1] I ought to say that Dr. Martineau does not expressly make the statement in the text as to the proportion between the merit of a moral choice and its divergence from prudential choice. But he makes a corresponding statement with regard to *demerit* ("where the discrepancy is greatest between the moral and the prudential order of principles, the guilt is least: and where the discrepancy is least, the sin is greatest"): and the whole drift of his argument seems to imply that "merit" and "demerit" are to be similarly treated, *mutatis mutandis*.

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ing any divergence that would otherwise show itself between moral and prudential choice of alternatives. We should thus arrive at the paradoxical result that the more intensely and unreservedly a man holds a belief which the moralist declares to be inseparable from moral judgment, the more impossible it is, according to the same moralist, that any merit should attach to his moral choice!

So far I have not paid special attention to Dr. Martineau's account of the *objects* of moral judgment or choice. As it is in this part of his doctrine that he—on the whole, I think, correctly—regards himself as opposed to the "general consensus of modern English opinion," it is important to examine it carefully. I find, however, considerable difficulty in stating the exact issue; because it appears to me that in most of the general discussion which Dr. Martineau bestows on this subject (in ch. 1 of vol. II. book i.)—and especially in that part of it which is directed against my own views—there is a fundamental confusion between two questions which, in my opinion, have very little to do with each other; and which, at any rate, it is quite indispensable to distinguish clearly and discuss separately, as they have to be dealt with by quite different methods. There is, first, a historical or psychogonical question, to which in my *Methods of Ethics* I have made a passing reference[1]: I have stated it as my view that in the normal evolution of man's moral consciousness—both in the individual and in the race—moral judgments are first passed on outward acts, and only later, as the moral consciousness gradually develops and becomes more mature, the paramount importance of the inner principle of action comes to be recognised. This is the view that I have been led to take mainly by studying morality in the early stages of its development, and noting the gradual and slow process by which the distinction between moral and legal rules and the distinction between virtues proper and other excellences have come to be realised; but as the question, according to me, is one sociologically rather than ethically important, I have never had occasion to treat it in a systematic way. I entirely agree with Dr. Martineau in holding that in the mature moral consciousness, which alone each of us can make the subject of immediate observation and analysis, this earlier stage of development is altogether past; and we recognise that it is on the "inner principle" of an act that its morality depends. The issue that I am concerned to raise with Dr. Martineau does not

[1] In my first and second editions I devoted a page to this topic in Book III. ch. i. § 3, and referred to it again *en passant* in ch. xii. § 1 of the same book. As the former passage is quoted by Dr. Martineau for controversial purposes, I may point out that the greater part of it was omitted in my third edition: partly because I thought it was to some extent overstated, partly because I was afraid that its wording might encourage the very confusion pointed out in the text.

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in any way turn on the antithesis of *inner* and *outer*; it turns entirely on the altogether different distinction between *intention* and *motive*: and it appears to me that, through his not clearly distinguishing the two antitheses, the greater part of his argument has no relevance to the only question which I regard as ethically important. So far as I can see, he continually uses in chap. 1 the terms "spring" and "principle" of action—and even "motive"—in so vague a way as to include what I call *intention* as distinct from *motive*, as well as what I call *motive* as distinct from *intention*[1]: and when, in chap. 6, he does come to consider the issue between "motive" and "intention," he only considers it in the paradoxical form in which it is raised by Bentham, who maintains that there is no such thing as a bad motive. Bentham's statement is, I think, capable of defence, after proper explanation[2]; but I have always avoided it as a misleading paradox: I have always admitted that the common moral sense of mankind judges *motives* as well as *intentions* to be good and bad, and mature reflection leads me to approve, broadly and generally, of this judgment, as I find adequate utilitarian justification for it. The position that I maintain, against Dr. Martineau, is that our common moral judgments of right and wrong relate primarily to intentions as distinct from motives; that we do not primarily consider, in approving or disapproving of an act, what effects the agents *desired*, but what he *designed* to produce: the effects that he desired may have been purely good, but if other effects that he distinctly foresaw were bad, we do not allow him to relieve himself of responsibility for these latter on the plea that he felt no desire for them. If a man commits perjury to save a benefactor's life, we may admit the goodness of his motive as a mitigation of his blameworthiness, but that is all: we judge the intended perjury as morally criminal, though not so criminal as if it had been done from a sordid motive.

It is conceivable that the supposed perjurer may have acted not only from a good motive, but with the belief that he was acting rightly; he may have chosen perjury as a less evil than the sacrifice of his benefactor's life; still, the common sense of mankind judges his act to have been wrong, though we admit on reflection that it is in a certain sense right for a man to do what he thinks right, and therefore require for exactness of statement to distinguish "subjective" from "objective" rightness; but this distinction as so introduced relates primarily to *intention*, and not necessarily to motive at all. More commonly such an "altruistic" perjurer would recognise that he was doing wrong;

[1] *E.g.*, he speaks of the "mind estimating its own impulses and volitions" (p. 40) as if the two were convertible terms.

[2] He means (1) that pleasure is *per se* good; and (2) that there is no class of pleasures operating as motives which we could suppress without doing more harm than good to society.

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and in this case we might say that the desire to do right ought to have prevailed over the desire to save his benefactor; but even in this case I hold that our common moral judgment of the act does not turn primarily on a comparison of motives. For we commonly regard it as a Stoical exaggeration to require a man to act always—or even as much as possible—from a pure desire to do right; we think that in ordinary human life other motives, which yet we admit to be in a sense 'inferior,' normally and properly come in. Hence, in many important cases, the question of *motive* as distinct from *intention* is not even raised, in the application of our common notions of particular duties and virtues; what we regard as indispensable—as I have elsewhere said—is merely a settled resolution to intend or will a certain kind of external effects.[1]

I cannot, therefore, accept Dr. Martineau's view that our ordinary moral judgments are essentially comparisons of motives: such a doctrine is entirely contrary to my own moral experience, and—for the reasons just given—I do not think that it corresponds to the common moral experience of mankind. At the same time, as we certainly do take note of motives and judge them to be good and bad, it is interesting to consider how far it is possible to arrange our motives in a scale, exhibiting their gradations of ethical rank, as intuitively determined by our common moral consciousness; and how far such a graduated estimate of motives is capable of giving us practical guidance. The most original part of Dr. Martineau's work consists in his systematic attempt to construct such a scale, as the result of a number of particular moral comparisons. He admits that "the whole scale of inner principles is open to survey only to the wisest mind"; and he describes his own classification of motives as a "tentative draft" from a pyschological point of view: but he does not show much diffidence as to the universal validity of his ethical valuation of the springs of action classified; and he has no doubt that "however limited the range of our moral consciousness, it would lead us all to the same verdicts, had we all the same segment of the series under our cognisance".

[1] "Thus we call a man veracious if he has a settled habit of endeavouring in his speech to produce in the minds of others impressions exactly correspondent to the facts, whatever his motive may be for so doing: whether he is moved solely or mainly by a regard for duty or virtue generally, or by a love of truth in particular, or a sense of the degradation of falsehood, or a conviction that truth-speaking is in the long run the best policy in this world, or a belief that it will be rewarded hereafter, or a sympathetic aversion to the inconveniences which misleading statements cause to other people. Similarly, we attribute Justice, if a man has a settled habit of weighing diverse claims and fulfilling them in the ratio of their importance; Good Faith, if he has a settled habit of strictly keeping express or tacit engagements: and so forth."—(*Methods of Ethics*, 3rd Edit., book iii., ch. 2, p. 222.)

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The following is his list: and, in examining it, the reader should keep clearly before his mind Dr. Martineau's fundamental distinction between the *primary* springs of action, which "urge men, in the way of unreflecting instinct, to appropriate objects or natural expression," and the *secondary* springs, "which supervene upon self-knowledge and experience, and in which the preconception is present of an end gratifying to recognised feeling". It should also be said that the list includes the "chief composite springs of action," along with those that Dr. Martineau regards as elementary.

LOWEST.

1. Secondary Passions:—Censoriousness, Vindictiveness, Suspiciousness.
2. Secondary Organic Propensions:—Love of Ease and Sensual Pleasure.
3. Primary Organic Propensions:—Appetites.
4. Primary Animal Propension:—Spontaneous Activity (unselective).
5. Love of Gain (reflective derivative from Appetite).
6. Secondary Affections (sentimental indulgence of sympathetic feelings).
7. Primary Passions:—Antipathy, Fear, Resentment.
8. Causal Energy:—Love of Power, or Ambition; Love of Liberty.
9. Secondary Sentiments:—Love of Culture.
10. Primary Sentiments of Wonder and Admiration.
11. Primary Affections, Parental and Social; with (approximately) Generosity and Gratitude.
12. Primary Affection of Compassion.
13. Primary Sentiment of Reverence.

HIGHEST.

I have not space to discuss this list from a psychological point of view: otherwise I should like to ask why the class of "passions" is so unusually restricted, why conjugal affection is omitted, whether wonder can properly be regarded as a definite motive, and whether "censoriousness" and "suspiciousness" are proper terms for desires of malevolent pleasure: and I should venture to criticise throughout Dr. Martineau's distinction of elementary and composite principles. As regards the ethical valuation—which, rather than the psychological analysis, it here concerns us to discuss—my view is that it probably corresponds about as well as any similar general scale would do to the judgments that men commonly pass as to the different elevation of different motives; but that the very effort to reduce these judgments to precision and system brings home to us forcibly how very vague and varying they are, and how impossible a task it is to assign a definite and constant ethical value to each different kind of motive in this general way, without reference to the particular circumstances under which it has arisen, the extent of indulgence that it demands, and the consequences to which this indulgence would lead in any particular case. It is easy to exhibit this difficulty even in the case of the motive that Dr. Martineau places lowest in the scale. When the preacher tells us that the

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impulse to obtain pleasure from another's pain is altogether corrupt and abominable, we give a ready assent: but when the jurist tells us that the demand for "vindictive satisfaction" is indispensable to the effective administration of the criminal law, we shrink from branding as illegitimate even the desire of malevolent pleasure, so long as it is restricted to the satisfaction derived from getting a murderer hung, or a swindler brought to penal servitude. A similar reference to consequences is, I conceive, usually made, whenever a conflict of motives occurs, sufficiently sustained and important to lead us to conscious comparison and deliberate choice between them: and thus the moral issue inevitably becomes quite different from that which Dr. Martineau describes as normal: the decisive question is not which motive is higher, but which set of foreseen consequences is on the whole to be preferred. Dr. Martineau fully recognises that "it is the business of another department of ethics" to "estimate the consequences of actions"; but he thinks that this business should be undertaken "after settlement of the rank of motives". It appears to me, however, that in the very cases he selects to prove his theory, the judgment of common sense as to the motive that ought to prevail is manifestly determined by a broad consideration of the alternative courses of conduct to which the conflicting motives prompt.

Thus, so far as it is true that "the conscience says to every one, 'Do not eat till you are hungry and stop when you are hungry no more'" it is not, I venture to think, because a "regulative right is clearly vested in primary instinctive needs, relatively to their secondaries," but because experience has shown that to seek the gratification of the palate apart from the satisfaction of hunger is generally dangerous to physical wellbeing; and it is in view of this danger that the conscience operates. If we condemn "a ship captain," who, "caught in a fog off a lee shore, neglects, through indolence and love of ease, to slacken speed and take cautious soundings and open his steam-whistle," it is not because we intuitively discern fear to be a higher motive than love of ease, but because the consequences disregarded are judged to be indefinitely more important than the gratification obtained: if we took a case in which fear was not similarly sustained by prudence, our judgment would certainly be different. If, again, in a conflict between resentment and the desire of sympathetic pleasure, we think the former motive should prevail, it is only so far as we regard the resentment as being—to use Dr. Martineau's words—"well-grounded" and "the natural defence of Right among men": we condemn the parent whose sympathy prevents him from punishing his children sufficiently, not on account of the comparative lowness of his motive, but in view of the bad effects on the training of the child. And similarly in other cases.

I have only space just to notice the discussion of "Hetero-

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psychological" theories that occupies the second half of Dr. Martineau's second volume. In the criticism of "Utilitarian Hedonism" with which it commences, the writer is traversing a ground now somewhat worn, and it is hardly surprising that he should not find much to say that is at once new and true: but many of his points are well-chosen, and his polemical rhetoric is often very effective. There is more freshness of interest, with no less rhetorical effectiveness, in the criticism of Mr. Spencer and Mr. Stephen—mainly of the former—which follows under the title of "Hedonism with Evolution". The discussion of the "Dianoetic" theories of Cudworth, Clarke and Price appears to me not quite up to Dr. Martineau's ordinary level in penetration and appreciativeness: and after reading it I am quite unable to understand how he can speak of himself as having "approximately adopted" the theory of Kant: since among English writers Clarke and Price certainly approach most closely to Kant's ethical position, and Dr. Martineau's arguments against the place that the latter writer assigns to the Reason must, I conceive, be valid against Kant, if they have any validity at all. On the other hand, the account of Hutcheson's system which concludes the volume—though not, in my opinion, free from serious misunderstandings[1]—is sympathetic, careful and interesting.

H. SIDGWICK.

Marius the Epicurean: His Sensations and Ideas. By WALTER PATER, M.A., Fellow of Brasenose College, Oxford. 2 Vols. London: Macmillan & Co., 1885. Pp. 260, 246.

Readers of Mr. Pater's earlier work, *The Renaissance*, will have naturally turned to this book, wishing to see what may be the fuller development, implied in its title, of the writer's thought. The following notice is not meant for them so much as for those who, not knowing the former collection of Essays, might perhaps pass by what is really a continuation of them, under the idea that it was only a historical novel. This is indeed its form: but in setting out what he has to say the author

[1] *E.g.*, when Dr. Martineau says, (p. 496) "If you ask [Hutcheson] whether Virtue is a quality of the action or of the agent, you gain no steady reply," he has, I think, overlooked the reply given in book ii., ch. 3, of the *System*, by means of the distinction between "material" and "formal" goodness. Nor do I understand why, because Hutcheson—with Butler, following Shaftesbury—tries to show the harmony between Benevolence and Self-love, he is therefore to be accused of making the *distinction* between the two illusory (p. 513): or why he is supposed to contradict his most cherished and characteristic doctrines and to hold that "pleasure desired or pain shunned is the only possible incentive to the will"—unless it is by a mistaken inference from a passage (*System*, i. 3) in which Hutcheson is expressly referring to *selfish* desires.

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does repeatedly pass (to use his own words) "from Marius to his modern representatives—from Rome to Paris or London".

Put shortly, the story is as follows. Marius finds himself left in boyhood the head of an ancient Roman family, whose wealth and estates have, by the middle of the second century A.D.—the point where the story begins—dwindled to the possession of an old countryhouse, "half farm, half villa". Brought up here, in all country freedom and simplicity tempered by a certain feminine refinement, till his mother's death, Marius passes to the school of Pisa. The wider experiences of outward life now gained, while at the same time he eagerly lays hold on the *studia litterarum*, make him, at eighteen, a student of no ordinary seriousness and severity. He has seen in the death of a passionately-loved friend,—of that Flavian of whom the voice and glance were "like the breaking in of the solid world upon one, amid the flimsy fictions of a dream,"—something like "a final revelation of nothing less than the soul's extinction". He sets himself to philosophy for the resolution of the questions which life is now putting to him: and has worked out a "New Cyrenaicism" for himself, when, at the age of twenty, he is called to the service of the emperor Marcus Aurelius at Rome. Marius's own theories are now brought into relation with Stoicism as preached in the emperor's writings and acted in his life. And during the period —of about fifteen years—which follows, his friendship with Cornelius, a Christian *eques*, gives him glimpses of the "genius of Christianity," at first under the Minor Peace of the Church, and later in the persecutions which may be counted among Aurelius's mistakes. Finally, he saves Cornelius's life at the cost of his own: he is about thirty-five years old, when he passes away, "*anima naturaliter Christiana*".

This then is the story. When one asks, "What does it all come to?" it seems necessary to disregard the historic framework almost entirely. No one perhaps is justified in saying that a personality such as Marius was impossible in Roman life of the 2nd century A.D. But at any rate a great deal that is essential in Marius is better seen apart from the accidents to which the writer's art has given such reality. Of the two ways of thought, Stoicism and Christianity, which are brought especially to bear upon his own, an account is given, true and wonderfully sympathetic as it deals with Marcus Aurelius, and conveying an impression of reality in its presentation as to the early church in Cecilia's house. It simplifies things, certainly, to have them set before us, as in these two instances, from the original and in their beginnings. But, in taking the book seriously, and recognising as Mr. Pater says, that Marius's "age and our own have much in common—many difficulties and hopes," we have to "note" things, "as Marius could hardly have done".

At the risk of condemnation for hasty generalising, let it be said that the text of which *Marius* is the sermon has previously been

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given, in various forms, in the work already referred to, *The Renaissance*. This is worth mention, because if the eleven or twelve years that lie between the appearance of the two books have induced the writer to emphasise and elaborate his original thought, his present exposition of it comes with all the more weight. It would be injustice to a work of art to attempt to reproduce what Mr. Pater has to say in any but his own words: the reader must consider this, if the frequency of inverted commas is wearisome.

First, the attitude towards philosophy—of the writer or of Marius—is one of renunciation. We heard, in the essay on Winckelmann, that while it was easy "to indulge the commonplace metaphysical instinct," a "taste for metaphysics" might be "one of those things which we must renounce if we mean to mould our lives to artistic perfection". And of philosophy we were told that it "serves culture, not by the fancied gift of absolute or transcendental knowledge, but by suggesting questions which help one to detect the passion, and strangeness and dramatic contrasts of life". Marius, who bears about with him from childhood to death a deep religious earnestness and certainly is not chargeable with dulness of intellect, finds that his Cyrenaicism requires the "limitation, almost the renunciation, of metaphysical inquiry". Of philosophy, then, strictly speaking, we must not expect to find much in the book. But perhaps just in this lies its value: that it gives the picture—recognisable by many men as true of themselves—of a really serious mind, that seems to itself to have apprehended a "weakness at the very foundations of human knowledge," and that while duly "trying all the spirits" has its ultimate refuge in some "instinct," some theory of "insight" or of "decisive conscience on sight". Marius, and perhaps (in Mr. Pater's phrase) his "intellectual heirs," are more concerned with applied than with pure philosophy. The plain acknowledgment of this as a starting-point clears the way: and the psychological analysis of Marius by himself or by his biographer has the different worth of Rousseau's Confessions for different students.

A theory of life, then, without metaphysics, which shall in some degree satisfy strongly-felt spiritual needs, the old satisfactions proving inadequate: this is what Marius has to seek. So far as he ever finds it, it is in a development or education of what is or seems to him to be peculiarly the self in him. This may be uncomforting doctrine to those who want a *Consolatio Philosophiae:* but do Aurelius or Boëthius supply anything better? Marius seems to stand in a school opposed to these; but, we read, "Cyrenaicism, old or new, may be noticed, just in proportion to the completeness of its development, to approach, as to the nobler form of Cynicism, so also to the more nobly-developed phases of the older traditional ethics". Or, as Mr. Pater puts it again, "perhaps all theories of morals tend, as they rise to their best,

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and as conceived by their worthiest disciples, to identification with each other". The conception of the worthiest disciple, then, is what we have to look at.

In Marius, "New Cyrenaicism," Roman or modern, means the making the most, "in no mean or vulgar sense, of the few years of life; few, indeed, for the attainment of anything like general perfection". His motto is *Let us work while it is day!* He has passed from the limiting preference of the μονόχρονος ἡδονή with which original Cyrenaicism starts to the steady attempt after "not only as intense but as complete a life as possible". He claims liberty, of heart and thought, and he has learnt (like Winckelmann) to "multiply his intellectual force by detaching from it all flaccid interests". But he will not ignore what is outside him, even what does not, in its æsthetic character, make immediate claim upon him. The "venerable system of sentiment and ideas, actually in a kind of impregnable possession of human life" must be come to terms with. Attach oneself to it, and "one lets in a great side" of the world's experience, and makes "as it were with a single step, a great experience of one's own": there comes a "great consequent increase to one's mind, of colour, variety and relief, in the spectacle of men and things". Is the New Cyrenaic only a spectator? This question suggests itself not seldom in the book. In Marius himself, the development is certainly a development of seeing, of the capabilities of a spectator. "In the eye,"—so said his teacher in the temple of Æsculapius—"would lie for him the determining influence of life": he remains "the humble follower of the eye" in the opposition of good and evil to which Stoicism seems to blind Aurelius: and on his deathbed he is conscious that "the *seeing* of a perfect humanity in a perfect world, through all his alternations of mind, by some dominant instinct determined by the original necessities of his own nature and character"—has been always esteemed by him above "the *having*, or even the *doing*, of anything". How far do these points in his own nature differentiate Marius's Cyrenaicism? If Cyrenaicism is the "supreme artistic view of life," does it want the complement which in Marius's case it certainly gets, of a reference to "further revelation, some day" after this life? One cannot but feel that Mr. Pater's exposition, professing to be general, becomes now and then bafflingly individual. Let it be repeated, at any rate, that, in Marius the Roman, his whole intellectual course is a "diligent promotion of the capacity of the eye," a capacity existing in him, with all that it implied, from childhood: and that his lifelong training of his receptive powers as a whole, the life-long practising of himself to "see," has always "the purpose of a self-preparation towards an ampler vision, which should take up into itself and explain this world's delightful shows, as the scattered fragments of a poetry, till then but half understood, might be taken up into the text of a lost epic, recovered at last".

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If, in trying to understand Marius's position, we leave out—as seems necessary—what may be supposed idiosyncrasies in him; if we may assume "insight" to be indispensable in the Cyrenaic scheme, yet so that the Cyrenaic disciple need not start with it as Marius does, but may acquire it; then the parts filled by Stoicism and by Christianity in his mental progress come into somewhat more of prominence than otherwise. In the Marius of the story—and it is difficult to keep him apart from the Marius of here and now—Stoicism, implying, as in Aurelius's tolerance of popular cruelty at the gladiatorial shows, a "sin of blindness" here and there in its views of the world, is first operative towards antagonism. He is able to see in Aurelius a certain mediocrity, though a golden. Yet, with that "strong tendency to moral assents" which perhaps may be allowed as a possible Cyrenaic generality, not an exclusive possession of Marius's, the antagonism to parts, or to personal realisations, of a system which might—its exponents said—"give unity of motive to an actual rectitude of life," makes him pass his own theoretic scheme in review, and seek what may be the true relation between it and Stoicism. What he gets out of this is the recognition of a "companionship," apprehended at least by Aurelius, if not taught by Stoicism, a companionship with an intelligible "assistant," "whose tabernacle was in the intelligence of men". To Aurelius, indeed, "the presence of this supposed guest" varies "with the intellectual fortune of the hour, from being the plainest account of experience to a sheer fantasy, believed almost because it was impossible". The pathetic inconsistencies of the *Meditations* have perhaps never been brought out more clearly than in Mr. Pater's seventeenth chapter. But Marius would feel common ground in such utterances as "All things are but opinion: and no man lives properly but that very instant of time which is now present": and, while the quasi-personal antagonism might survive as a corrective, this new "hope," of a "mystic companion," who might lead one "out of the merely objective pagan world," cannot but recommend itself to the thinker who, on the Cyrenaic basis "that all is vanity," has superinduced the need of a "pursuit after nothing less than a perfection". Is Marius more consistent than Aurelius? Granted, that Cyrenaic doctrine may be "realised as a motive of earnestness or enthusiasm," and that its disciple, "in his elaborately developed self-consciousness, has beyond all others an inward need of something permanent in its character to hold by": has he any logical right to find this, as Marius does, in a formulation of "that reasonable *Ideal*, which the Old Testament calls the *Creator*, and the Greek philosophers *Eternal Reason*, and the New Testament the *Father of Men*"? Marius the Roman is brought, not perhaps impossibly, to his 'glimpses that shall make him less forlorn' by virtue and by compulsion of his original endowments and needs. If from the beginning "the whole of life" has seemed "full of sacred

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presences" to one who also has ever a "peculiar ideal of home," then the experience of Marius on that fair February afternoon, when from the recognition of his bodily self, as "determined by a vast system of material influences external to it, a thousand combining elements from earth and sky" he infers his intellectual being, "still more intimately himself," as "a moment, an impulse or series of impulses, belonging to an intellectual system without him," and so finds in that "perpetual mind" the permanency he has sought and the companionship whose inspiration "rounds and supports" the imperfection of his thoughts;—this particular experience in such a thinker, whose ideas and sensations, one ought to note, "never fell again precisely into focus as on that day," may be a not incongruous development. But if the endowments or the needs are either or both not present in the modern Marius! Cyrenaicism may be in one reading a "counsel of perfection": yet it surely does not exclude other readings, also adequate, such as "the unity of culture in which whatsoever things are comely are reconciled for the elevation and adornment of our spirits," or "the effort to tranquillise and sweeten life by idealising its vehement sentiments".

But, as before suggested, the want of consistency in doctrine, and yet the almost joyous consummation which Marius's individual evolution reaches, may in their contrast be the significant thing in the book. "*Se tu segui tua stella*"—is this the answer to Marius's own so frequent question—"What was all that"? In that apperception, at any rate, of the ideal, which "defined a personal gratitude and the sense of a friendly hand laid upon him amid the shadows of the world," his subsequent relations to Christianity are implicitly contained. To a modern Marius, the "soothing influence" which "the Roman Church has often exerted over spirits too noble to be its subjects yet brought within the neighbourhood of its action," might in some analogies be what early Christianity was to his Roman prototype. But once more, to the Roman Marius Christianity is presented as a sort of beatific vision satisfying at least approximately his trained capacities for vision, and becomes indirectly the instrument—when he saves Cornelius's life in the persecution—of that "self-devotion which should consecrate his life," towards which from boyhood he had anticipatorily schooled himself. By the Cyrenaic, not of Marian nature, would anything more than an "adjustment" be felt necessary?

As the book does not claim to be properly philosophic, it is perhaps allowable to talk of the "impressions" its reading leaves, or may be fairly expected to leave. The main one probably to most readers would be—of hopelessness in regard to systems, mixed with a remarkable religiosity and belief in the individual desire to believe.

ALFRED GOODWIN.

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La Liberté et le Déterminisme. Par ALFRED FOUILLÉE. Deuxième Edition entièrement refondue et très augmentée. Paris: F. Alcan, 1884. Pp. viii., 367.

M. Fouillée's important work on *Freedom and Determinism*, now entirely recast and greatly enlarged, was first published in 1872. One at least of its characteristic ideas has since that time begun to have effect in ethical speculation; and the doctrine presented as a reconciliation of the ordinary theories of free-will and determinism has, taken as a whole, so much to distinguish it from other views, that the appearance of a new edition may be made the occasion for trying to show what exactly has been contributed by the author to the solution of the secular problem.

The "method of conciliation," although characteristic of M. Fouillée's philosophy, is not peculiar to it. Others have attempted the same method, though not in precisely the same form. And on this question of freedom of the will, even apart from any deliberate effort to reconcile the opposed doctrines, a certain convergence is perceptible at least between the views of those schools that have not had their general attitude determined by extra-philosophical considerations. M. Fouillée's method has, however, a distinctive character in the procedure by which he seeks to "intercalate a series of mean terms" between each doctrine and its opposite.

A "practical conciliation" is first arrived at by means of the author's theory of "idea-forces". Every idea, according to this theory, contains an active element, which, on its physical side, is a force. Whenever there is a conflict of ideas in the mind there is in the brain a conflict of corresponding incipient motions; when one of these becomes more powerful than the rest, muscular movement follows, and, on the mental side, an idea has passed into a volition. The idea of freedom arises among our "idea-forces". It begins to be formed as soon as we perceive the physical possibility of the contrary of each of our actions. Through several stages of abstraction we at length arrive at the idea of power to perform any action, whether the one we desire or its contrary, if only we choose. Many actions that would not otherwise have been done are done under the influence of this idea; we strive to realise our freedom by doing the contrary of that which we desire. The idea of freedom has therefore a practical influence equal to that which indeterminists ascribe to free-will itself. Ordinary determinism errs in not taking account of this practical influence of the idea of freedom.

But the theoretical difficulty still remains. Real indeterminism is incompatible with any scientific statement of the uniformity of physical law. The modern attempts to revive the doctrine of a *clinamen* cannot maintain themselves against criticism; nor is Kant's noumenal freedom combined with phenomenal determination more satisfactory. The method of "theo-

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retical conciliation" to be adopted follows from what has gone before. We must find in determinism itself the means of constructing a complete ideal of freedom.

The feeling of an activity that may be called "free" because it begins from within has part equally in the pursuit of knowledge, in the sense of beauty, and in the moral sentiment. In knowledge it shows itself as "anticipation of experience" by the mind; in art its typical expression is "grace" or unconstrained movement, which is "the symbol of freedom"; but it is in morality, in the "love of others," that the ideal of freedom becomes complete. This ideal may be conceived as finding its realisation in a community where each individual freely (and not from a sense of obligation) seeks the happiness of others, who are also regarded as free. Perfect liberty is identical with the kind of happiness that would be the ideal completion of the joy of existence and of action. Hence it is an end and not a means. French philosophy, notwithstanding its false theory of indeterminism, perhaps partly in consequence of it, has seen this; and the French nation in its efforts to realise liberty and fraternity has shown the practical influence of the individual and social idéal of freedom; while English and German philosophy have made freedom subordinate, the one to utility, the other to the State.

In the author's "theoretical synthesis," the "idea-force" of liberty thus conceived is presented as "the complement of naturalism" and "the complement of idealism". The "mechanical determinism" of the naturalists and the "intellectual determinism" of the idealists are transformed by means of it into a "dynamical determinism". Starting from the side of indeterminism we arrive at an analogous conception. The freedom of the indeterminists, if it is to produce any effect, must not remain apart in the noumenal world, but must first make for itself a mechanism of causes and effects by which its ultimate end is to be attained; this mechanism becomes at last an organism, or "circular mechanism," of means adapted to proximate ends. From the point of view of development, freedom may be contemplated as gradually evolving itself from "reflex mechanism" through the stage of "inhibition" (of one "idea-force" by another) to "self-determination". The final conception of individual freedom is that of self-determination under the attraction of an idea of the universal good.

But for this ideal to be realised we must have complete knowledge of all the circumstances and consequences of our actions. So far as the result of an action is left to be determined by causes that are not within our knowledge, we do not act freely. Again, it is impossible, from the point of view of the individual, to arrive at clearness as to the limits of moral responsibility. There is no difficulty in finding a practical solution; but to find a complete theoretical solution we must pass on to the metaphysical question that finally presents itself.

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Complete knowledge can only exist in the absolute; and the ideal of a freedom identical with perfect happiness in itself implies absolute existence and activity meeting with no obstacle outside. Even when we have established the possibility of freedom in this sense, the question occurs whether such a doctrine of freedom is not, after all, determinism. For determination in the absolute from complete knowledge is still determination. In the end we do not know whether there is freedom or necessity at the centre of things. And as we do not know what is the nature of reality so we do not know whether the ideal of freedom can ever be realised by human society. This ultimate doubt is to be solved by action.

From a point of view different from that which M. Fouillée seems here to take, a sufficient explanation of the ultimate doubt as to the future might be found in inadequate scientific knowledge of ourselves and of the world. This doubt, it might be contended, would remain even if we were convinced that the reality of things is necessity; it cannot, therefore, be connected with doubt as to the nature of reality. On the other hand, we might have adequate scientific knowledge of the whole series of causes and effects of our actions, and the metaphysical question might still be insoluble. The doctrine of freedom as "self-determination," although M. Fouillée prefers to develop it from suggestions in Leibniz, is essentially Spinoza's doctrine of freedom as action from adequate ideas: an advantage of developing it from Spinoza would have been the disappearance of the misleading term "free-will". It is, of course, separable from the author's metaphysics, for which, as he himself tells us in his Preface, he does not expect to gain general acceptance. If "the method of conciliation" seems to some extent to affect unfavourably M. Fouillée's statement of this doctrine, as well as his metaphysics, on the other hand we probably owe to it his theory of "idées-forces". This may be claimed as at least a very important contribution to philosophical terminology. Again, in the view taken of freedom as identical with happiness, and therefore at once the ultimate end and the essence of morality, not merely a means to future good or a form of all right action, there is an idea that is capable of much further application in ethics.

The difference between M. Fouillée's "persuasive ideal" of freedom and the ideal of those who accept the categorical imperative of Kant as the best expression of that feeling of obligation which seems to them to be the essentially ethical feeling, has close associations with a difference of opinion as to the origin of morality. Those who find this in a primitive sympathy ought to agree with M. Fouillée; those who assign less influence to sympathy and trace moral precepts to commands imposed when man was passing through the earlier stages of social evolution ought to prefer Kant's formula. The first of these views, it may be remarked, although M. Fouillée claims his

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"more human" ideal especially for France, is that which has most frequently been taken by English thinkers.

T. WHITTAKER.

Grundriss der Psychologie. Von Dr. GUSTAV GLOGAU, o. ö. Professor der Philosophie an der Christian-Albrechts-Universität zu Kiel. Breslau: Koebner, 1884. Pp. vi., 235.

This volume, the author tells us in his preface, has grown out of "Dictate" or epitomes of lectures specially prepared by him for his students, and aims primarily at being a convenient text-book for these, though not without a view also to the wants of a wider public. It is interpolated as a sort of *Nebenstudium* in a more elaborate literary scheme, namely, a general outline of the several leading philosophical sciences, *Abriss der philosophischen Grundwissenschaften*, of which the first part appeared in 1880, as noted in MIND XX. 588, at the time. Written, in the first instance, for students, the chapters are clearly divided into sections and paragraphs, the drift of which is easily recognised by a glance at the table of contents. Better still, there are frequent references by number to preceding paragraphs, and less frequent to succeeding ones, which greatly help the reader in seizing the relations of part to part without a too great consumption of space. The style is for the most part plain and condensed, though now and again there seems to be a tendency to launch out into something more ornate and elaborate. It is hardly necessary to add that a good deal of knowledge of the subject is presupposed. In truth, the volume will prove a sealed book to one who has not previously made a careful study of the leading psychological doctrines of the day. Also, there are so many points only half opened up and barely touched on, that the reading of the work is apt now and again to tax the powers of even a well-read student. In this respect Dr. Glogau has effectually guarded himself against the supposition—which he distinctly contradicts in the preface—that his book is to serve as an easy hand-book for the mere examinee.

The volume consists of a short Introduction and three main Parts. Dr. Glogau begins by giving his own version of the place, scope and method of the science. Dogmatism which does not discriminate between empirical science and a critical construction of ultimate principles [Erkenntnisstheorie] is rejected, and the place of a strictly empirical psychology over against a spiritualistic on the one hand, and a materialistic on the other, firmly maintained. At the same time, Dr. Glogau sees that "psychology touches the problems of the nature of spirit, matter and God, in many ways and very closely, and has, indeed, to provide material for a special treatment of these problems in the theory of knowledge and metaphysic". The relation of physiology to psychology is briefly defined; the author illustrating by

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a diagram the varying relation of accessibility in the physical and the psychical series of processes, low and high. Four different stages of self-consciousness and knowledge of mind are distinguished: (1) Practical knowledge, which springs unconsciously out of the natural communities, family, school, &c.; (2) Theoretic understanding, which presupposes permanent embodiments of mental life, literary memorials in which the mental experience of others is clearly and minutely depicted, and which, by a preliminary process of reflection and analysis, attains to a distinct empirical knowledge of mind and its various manifestations; (3) Genetic or historical understanding; and (4) Rational contemplation or Psychology proper.

Psychology, as here conceived, takes account of peoples as well as individuals. The author contends that it cannot begin with introspection or self-knowledge. The primitive mind is incapable of distinguishing subject and object, as this would presuppose. The individual man knows himself only in other men, that is, through and by means of the objective observation of others' actions, &c. And this emphasising of the fact that knowledge of mind is primarily knowledge of the collective or social mind, leads to a peculiar arrangement of the treatise. For while Part i. deals with the foundations and elements of mental life, and Part iii. with its special laws, Part ii. traces the main stages in the development of the collective human mind. It may, indeed, be said that this incorporation of *Völkerpsychologie* with general psychology is the most interesting feature of Dr. Glogau's volume. The English student will not fail to be struck by the similarity of the author's idea to the doctrine of the late G. H. Lewes, that psychology includes a sociological factor, and presupposes a body of historical knowledge. We will here only remark that the author appears to go too far in maintaining that knowledge of our own mind takes its rise in the observation of others. Rather would one say that knowledge of self and of others arise independently and proceed side by side, though, of course, each supplements and aids the other. And it may be added that even if, when considered historically, knowledge of others precedes knowledge of self, this fact would not necessarily show the proper order of psychological treatment to be that laid down by the author. For it may be contended that the first knowledge of others is still knowledge of individual minds; and, further, that, considered logically, or in order of rational dependence, knowledge of self is the *prius*, and, consequently, must be our starting point.

Part i. goes over a wide territory, touching many points of vital interest in a suggestive if somewhat hasty fashion. The organism and its several functions, the nervous system and organs of sense, the relation of the psychical to the nervous process, the threshold of sensation, differences of temperament, laws of emotional expression, the instinctive cravings or impulses, mental disturbances and diseases,—these are among the matters dis-

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coursed of. Dr. Glogau has here succeeded in a remarkable way in packing a large amount of well-ascertained fact into a small compass. Yet here more than anywhere else, perhaps, the reader will be apt to regret that he is not able to supplement his reading by attendance at the author's lectures. The subject most fully dealt with is that of impulse, the nature and variety of which are set forth somewhat after the manner of G. H. Schneider.

Part ii., which deals with the broad features of the early developments of the human mind, is full of interest, and one almost wishes that Dr. Glogau had made this the special subject of his treatise. The sketch here given is offered as an abstract construction, based on the essential motives which disclose themselves in historical reality, but making no pretence to close correspondence with the concrete facts of history. Here we have a clear survey of early social developments, the institution of the family and the tribe, and the primitive organisation of the folk-mind. Then follows a sketch of the evolution of language and of mythology, which prepares the way for a brief glance at the higher stages of intellectual and moral progress in the conscious mental life of historical peoples. The author brings to these large and imposing topics not only the results of careful reading but a certain imaginative glow, which is appropriate enough and offers an agreeable relief to the more abstract and technical passages of the volume. No one who reads this part can fail to see how much psychology has to gain of large human interest by the assimilation of the results of anthropological and other related branches of research.

In Part iii., Dr. Glogau takes up the special laws of mind —coalescence, separation, mutual hindrance, and so forth, of psychical elements. Here we see more clearly than in the earlier portions the influence of Herbart's thought, which seems to have been the most potent factor in determining the author's psychological stand-point and aims. The transition from the half-poetical reconstruction of early human consciousness to the dry scientific analysis of the mechanism of intellection strikes one as a little harsh. And, indeed, it is difficult to see why a general statement of psychical laws was not given at the outset, so that the exposition might have passed at once from the amount of the rude products of the primitive mind to a detailed description of the more varied and more intricate processes of observation, imagination, and thought of the civilised man. What makes the order of treatment at this point appear the more arbitrary is the little reference throughout Part iii. to the preceding one. Part iii., in fact, attaches itself not to its immediate predecessor but to Part i. Waiving this, however, one may give to this Part iii. unstinted praise. The intricate mechanism by which ideas are formed, the laws of association, the several forms of apperception, are all set forth in a masterly way. Brief statement is eked out by symbols

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and formulas, in the choice of which the author shows great skill. Of special interest is the treatment of the process of unification in grouping a number of sense-elements into percepts. This result is attributed to the work of "productive imagination," from which is distinguished the higher function of phantasy, which enters into the organisation of a number of single images into general notions. A concluding chapter provides an excellent epitome of the development of the ideas of space and of time, and the differentiation of subject from object consciousness. Here special mention may be made of the clear account of the way in which, by means of what is called the "constructive movement" of the eye, the mind arrives at a distinct presentation of space as a collection of co-existent parts. Dr. Glogau has thoroughly assimilated the valuable portions of the Berkeleyan doctrine of vision, and shows, in an interesting way, how touch contributes to the development of clear perception of distance and magnitude.

JAMES SULLY.

Ueber das Gedächtnis. Untersuchungen zur experimentellen Psychologie. Von HERM. EBBINGHAUS, Privatdocenten der Philosophie an der Universität Berlin. Leipzig: Duncker & Humblot, 1885. Pp. ix., 169.

If science be measurement, it must be confessed that psychology is in a bad way. It is true that the borderland between psychology and physiology, conveniently termed psychophysics, has already reached the stage where empirical generalisations have been raised into quantitative relations. Hitherto, however, purely psychical phenomena, apart from physical reference, have evaded the skill, or perhaps not engaged the attention, of the calculator except in a few sporadic investigations by Mr. Galton and Prof. Wundt. Even Sig. Buccola's exhaustive summary of what is known about the temporal relations of mental operations (*La Legge del Tempo*, Milan, 1883) never for a moment deserts the field where movements of mind can be compared with the extensive relations of physical objects. Dr. Ebbinghaus's investigations on memory may claim to be the first on any considerable scale in which quantitative relations have been obtained for psychical facts, apart either from physiological concomitants or physical reference. They therefore deserve, and will repay, the attention of earnest students of psychology.

The method employed by the author has been to investigate the conditions under which he could reproduce without error a number of 'nonsense verses,' of the type *baf dek fil, gom hum jär, köp lür maus, neit peuch rosch*, with all combinations of these consonants and vowels. He claims for the use of such materials the advantages of simplicity and uniformity and the absence of dis-

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turbing association, while he is further enabled to examine the last in its simplest form of auditory association. He investigates, so to speak, the raw material of memory, and gains glimpses of the ground-plan on which the fair fabric of mind is erected. The variables which lend themselves to measurement are the number of syllables constituting the 'verses,' the number of repetitions required to reproduce them, the time elapsing between learning and relearning, and, finally, the time saved in the latter process owing to the associations formed between contiguous members of the rows of syllables. The amount of mental work involved is at times reckoned in seconds, at times in numbers of repetitions, the latter being measured during each lesson by moving the beads of a kind of abacus or rosary. This variation of methods causes some confusion and want of uniformity in the results, though Herr Ebbinghaus gives tables to reduce the one to the other, the average time taken for the pronunciation of each syllable being 0·4″, or at the rate of 150 per minute. It seems desirable, when the investigations are continued, that the number of repetitions should be taken as the measure, especially as time appears as a variable in other parts of the inquiry. When we add that Herr Ebbinghaus has been careful to calculate the 'probable error' of each of his results, the chief points in the method employed have been indicated, and attention may be directed to the results obtained. Over a third of the book (Sections i.-iv. pp. 1-61) is taken up with remarks on memory in general, Comtian objections to introspection, the law of error, and the trustworthiness of results. Considering the class of readers who are likely to use the book, much of this might have been curtailed with advantage. But we must be content to accept the disadvantages of Teutonic thoroughness along with its many advantages.

The actual investigation begins in Section v., devoted to the "Time spent in learning Rows of Syllables regarded as a function of their Length". Our author presents two series of investigations, separated by over three years, but giving results remarkably uniform. Combining the two (pp. 64 and 67), we get the following relations between the number of syllables and of repetitions required to reproduce them (probable error here, as elsewhere, being neglected) :—

Syllables.	Repetitions.	Syllables.	Repetitions.
7	1	16 (mean)	31
10	12	19	38
12	16	24	44
13	23	26	55

Excepting a rise in the number of repetitions required, the author does not deduce any quantitative law from these results. It is surprising that he has not made use of the obvious expedient of reckoning only the number of syllables above a certain minimum (in his case 6), which could be learnt without repetition, and

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might be regarded as the 'threshold' value. Subtracting this, the following relations would hold between the surplus syllables and the quotient formed by dividing the number of repetitions by this :—

Surplus syllables (over 6).	Repetitions divided by syllables.	Surplus syllables.	Quotient
		10	3·1
4	3·0	13	2·9
6	2·7	18	2·6
7	3·3	20	2·7

This gives the general law that the number of repetitions required is treble the excess of the syllables over the 'threshold'. The general tendency towards a fall with the higher numbers, which is opposed to expectation and to our author's statements, may be due to the fact that the threshold is temporarily raised after the first few repetitions. When 24 or 26 syllables are learnt, the first 10 become fixed in memory after the first dozen repetitions, and thus become a new threshold for the remaining repetitions in this particular series of observations. It would also have been desirable in this connexion to determine the upper limit of the power of reproducing senseless sounds. There must be for each subject a number of syllables which would require an infinite number of repetitions to effect perfect retention of them, *i. e.*, they could never be learnt. The determination of these two limits would be of practical utility in pædagogics. This part of the book is concluded with the remarkable result that on applying the same method to significant language (stanzas of *Don Juan*) the time taken to retain series of 80 syllables was only one-tenth of what it would be with non-significant syllables.

Section vi. deals with "Memory as a function of the Number of Repetitions". The length of the verses here remains constant, six of 16 syllables, and these were repeated 8, 16, 24, 32, 42, 53, 64 times. The verses were then relearnt 24 hours afterwards, and the time saved in the second lesson noted. The author somewhat naïvely remarks that he did not think it desirable to attempt more than 64 repetitions, as even this took up more than three-quarters of an hour. It may be added that this investigation alone must have taken, I reckon, more than 22 hours of the most exhausting mental labour. The results are remarkably uniform, each repetition saving on an average 12·7″. Thus, to take a couple of examples, whereas without repetition the 96 syllables were learnt on the following day in 1270″, with 24 repetitions at the first lesson they were learnt next day in 975″, and with 64 in 454″;—a saving of 295″ in the first and of 816″ in the second case, 12·3″ being saved for each repetition in the first instance and 12·8″ in the second. This is equivalent to a saving of about one-third the original time of learning, or one repetition was saved out of every three, whatever the number of repetitions. A different set of four longer investigations, each of no less than

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410 repetitions of 72 syllables, gave only a saving of one-sixth, a remarkable result, which requires more discussion than the author has given to it, or can be spared for it here.

Turning to the next Section, on "Memory and Forgetfulness as functions of Time," we find the same measure utilised, the results being calculated according to the saving of time effected in re-learning 104 nonsense syllables after various intervals. The following Table gives the chief results, the first column giving the time elapsing between learning and relearning, the second the percentage of time saved in the latter operation, which we might term the 'modulus of memory,' the complementary percentage giving that of forgetfulness, which can easily be supplied.

Time elapsed.	Percentage saved.	Time.	Percentage.
20′	58·2	1 day	33·7
1 h.	44·2	2 „	27·8
8 h. 48′	35·8	6 „	25·4
		31 „	21·1

From these figures the author deduces the general formula—

$$m = \frac{100k}{(\log t)^c + k}$$

where m is the 'modulus of memory,' t the time-interval between learning and relearning, and c and k personal constants, which in the author's case are respectively 1·25 and 1·84. Putting f for $100 - m$, or the 'modulus of forgetfulness,' we obtain the simple relation $\frac{m}{f} = \frac{k}{(\log t)^c}$, *i. e.*, the amount retained is to that forgotten inversely as the logarithm of the time interval.

The next Section is a sort of combination of the preceding three, dealing with the effects of repeated learning of different numbers of syllables at intervals of 24 hours, the process being carried on during a week. The following may be selected as the table giving most information :—

Syllables.	Number of Repetitions required to learn on given days. I.	II.	III.	IV.	V.	VI.
12	16·5	11	7·5	5	3	2·5
24	44	22·5	12·5	7·5	4·5	3·5
36	55	23	11	7·5	4·5	3·5
Stanza of *Don Juan* (80)	7·75	3·75	1·75	0·5	0	0

The first differences of these numbers would yield in the second and fourth lines geometrical progressions with common ratio approximately $\frac{1}{2}$, but the first and third lines do not yield such simple relations. Comparing this with the results of repeated repetitions on the same day, the popular practice is justified which prefers to take lessons in doses on successive days, when the time saved is about one-half, rather than to continue the repetitions on the same day, which would give only an advantage of one-third or

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sometimes even only of one-sixth (Section vi.). Mr. Prendergast's 'mastery' method of learning languages is founded on this principle.

Section ix., the last, attempts to determine the relation of retention to the associations formed during learning. The associations here considered are merely auditory and thus differ from the significant ones investigated by Mr. Galton in his psychometric experiments (*Inquiries*, p. 199). It must have caused our author some trouble to fix upon a method to determine the associational linkages of his intractable materials. The one he has hit upon is to form new rows of syllables by skipping one or two or three syllables in his verses. Thus from the verse given above he could form new ones of the types *baf fil hum, köp maus peuch*, &c., *baf gom köp*, &c., *baf hum maus rosch*, &c. The saving of time thus effected as compared with learning entirely new verses is given in percentages of the original time taken in learning, and may be expressed in the following Table, where the Roman figures give the number of syllables skipped and the last rubric refers to a case where only the first and last syllable of each row was retained, the remainder being arbitrarily permuted. The number of syllables learnt was 96, six rows of 16 syllables; these could be relearnt when unchanged with a saving of 33 per cent. of the original time. The influence of association is shown by the relation of the following numbers to this figure rather than to 100: one ought perhaps to treble them.

New Series.	Time Saved.	Series.	Time.
I.	10·8	VII.	3·3
II.	7·0	Permutation.	0·5
III.	5·8		

It may be remarked that the probable error in this case is exceptionally large and the results proportionately uncertain. The general result reached is not of very startling novelty: associations are formed with all the series of intensity varying directly with contiguity. Other experiments seem to show that there is a kind of rhythm in associations, the odd syllables being more likely to be retained than the even.

Such is the method and such the main conclusions of this remarkable series of investigations, remarkable, it is perhaps needless to observe, more for their method than for their results. Indeed the irreverent critic might be tempted to remark that the results obtained scarcely seem calculated to set the Spree on fire. That it takes a relatively longer time to learn a longer set of verses; that the more you repeat mnemonics, the better you retain them; that you forget more as time goes on; that it is better to have spells of repetition at intervals than go on repeating till brain is weary and attention distraught; that associations are formed with strength varying according to the contiguity of the associated images—results like these scarcely seem to need

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two years of strenuous and exhausting labour to establish. But it almost invariably happens with statistical inquiries that the earliest results reached are mainly confirmatory of the rough averages which we term impressions and only have the additional advantage of determining the *how much*. It is rather from the subsidiary results that new generalisations emerge which were previously unsuspected. As the chemist finds his new compounds in the rubbish of the retort, so the statistical inquirer finds his new truths in the *débris* of investigation. Herr Ebbinghaus is very sparing in hints as to the direction in which we may expect psychological novelties from his investigations; he is almost ostentatiously cautious in keeping close to details. His reticence tempts one into speculations as to the future of the new branch of psychometry which he has opened up. May we hope to see the day when school registers will record that such and such a lad possesses 36 British Association units of memory-power or when we shall be able to calculate how long a mind of 17 'macaulays' will take to learn Book ii. of *Paradise Lost*? If this be visionary, we may at least hope for much of interest and practical utility in the comparison of the varying powers of different minds which can now at last be laid down to scale. Herr Ebbinghaus's results are as yet personal, but we are glad to learn from his preface that he is now engaged on the wider and more promising field of comparative work, the harvest of which will be anticipated with impatience. Meanwhile let us not part from him without a word of recognition for the astonishing patience, painstaking diligence, and scientific caution and accuracy shown in his work, qualities which one takes as a matter of course in a *Privatdocent* of a German university, but which would be regarded in any other case with wonder and admiration.

JOSEPH JACOBS.

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VIII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Francis Bacon: An Account of his Life and Works. By EDWIN A. ABBOTT, D.D., Author of *Bacon and Essex* and Editor of Bacon's *Essays;* formerly Fellow of St. John's College, Cambridge. London: Macmillan & Co., 1885. Pp. xxxix., 508.

The author, who had previously done good work upon Bacon, has ended by writing this considerable volume when he started with the design of compressing all he had to say within the compass of a short "Literature Primer". It is an independent account of Bacon's life, character and works, and has features that give it no small interest and value. After an argumentative "Introduction" (pp. v.-xxix.), turning chiefly upon a disputed incident in the Chancellor's judicial career, it gives, first, a summary of "Events in Bacon's Life and Times" (pp. xxxi.-ix.) which, besides being otherwise useful, helps to fill in those parts of the following narrative that are (as in the closing years) less adequate than they might be. The "Life" fills 331 pp., and, if it does not give evidence of special familiarity with the political history of the period which it covers, yet presents a view of Bacon's action throughout that is always well considered and often shows genuine insight. Especially notable is the final statement of the "problem" of Bacon's character, with the "solution" that his moral derelictions (1) were justified in his own eyes "by the hope that if he rose to eminence in the State he should have a larger command of industry and ability to help him in his philosophic work"; (2) did not appear such, because of his high estimate of his own character, sustained not only by his "consciousness of vast plans of universal philanthropy, but also by an habitual inaccuracy of mind combined with an unusually sanguine disposition," making him "always take the most favourable views of everything that concerned himself". Here, especially with his second point, Dr. Abbott surely transfixes the mark. Part ii., "Bacon's Works," without pretending to go very far into scientific or philosophic matters, is comprehensive and instructive; there is only, at p. 410, a somewhat uncalled-for outburst against that deeper kind of philosophical inquiry which is not therefore to be made light of because Bacon had no aptitude for it. After some Appendices, more or less philosophic in character, the book ends with an Index that is most happily redolent of Bacon at his best—as the master of all who write.

M. Tulli Ciceronis Academica. The Text revised and explained by JAMES S. REID, M.L., Fellow and Assistant Tutor of Gonville and Caius College, Cambridge; University Lecturer in Roman History. London: Macmillan & Co., 1885. Pp. x., 371.

Mr. Reid in putting forth this elaborate edition of Cicero's treatise expresses the opinion that "there is no ancient philosophical work which ought to be of greater interest to modern students of philosophy, and particularly to English students, than the *Academica*". The arguments of the New Academy against dogmatism are, he contends, essentially identical with the most important sceptical arguments of modern times; and the Stoic reply that the criterion of certitude is simply our conviction of the truth of our impressions is the only reply that it has

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ever been found possible to make to the sceptical position. He protests against the excessive depreciation of Cicero as a philosopher by recent historians, explaining it by political partisanship. Cicero, he contends, was essentially not a politician but a man of letters. He was not an original philosopher; but he had profound philosophical learning; and in his time no one sought for originality in philosophy. The question of Cicero's accuracy as a translator and interpreter of the Greeks does not seem to the present editor to be settled; but from his own studies he has formed a very favourable opinion of it; "confirmations of Cicero's accuracy," he says, "often come to light in the most unexpected quarters". He argues that the defects of bad arrangement, want of lucidity, &c., with which Cicero has been charged, may very well be due to his Greek originals; probably nothing but the framework of the dialogues, "the local scenery, the illustrations from Roman history and the connecting links" are of his own invention. Mr. Reid's historical discussion of the philosophical schools of the age of Cicero and his relations to each of them as well as to individual teachers is very full.

Works of THOMAS HILL GREEN, late Fellow of Balliol College, and Whyte's Professor of Moral Philosophy in the University of Oxford. Edited by R. L. NETTLESHIP, Fellow of Balliol College, Oxford. Vol. I. *Philosophical Works.* London: Longmans, Green & Co., 1885. Pp. xxvii., 541.

This edition will include all Green's printed works except the *Prolegomena to Ethics* (Oxford, 1883), and also a selection from his unpublished papers. The promise, in another volume, of such new matter is hardly more welcome than the collection, in the present one, of his two Introductions to Hume, with his later Articles on contemporary English psychology, as represented by Lewes and Mr. Spencer. It is well to have the famous 'Introductions' in accessible form, apart from Hume's works, and it would very usefully lighten an otherwise excellent edition of Hume if in future it should be issued without the 'Introductions' that made it so unwieldy. The later Articles, filling about a third of the present volume, are five in number, including the one (v.) in which Green replied to Mr. R. Hodgson's defence of Mr. Spencer, and one (iv.), on Lewes's doctrine of the Social Medium, that has not been previously published, being withheld, at the time when it was written (1878), on account of Lewes's death. "In reprinting, a few obvious corrections have been made in the text, and the division into sections and marginal analysis, which the author had made for the 'Introductions' to Hume, have been continued through the rest of the volume," except in the case of Article v.

The Logic of Definition: Explained and Applied. By WILLIAM L. DAVIDSON, M.A., Minister of Bourtie. London: Longmans, Green & Co., 1885. Pp. xxiv., 353.

The author of this work has endeavoured (1) to formulate and expound the principles of Definition and (2) to apply them. The spheres of application are mainly—the Dictionary, the School-book, Philosophical Vocabulary, Philosophical Questions, and Taxological Biology. He has kept constantly in view the wants of the student of philosophy and of the teacher, seeking also to be helpful to Dictionary-compilers and writers of educational manuals. An Appendix (pp. 319-30) gives some account of Boëthius with an abstract of his *De Divisione.* Some discussions now incorporated with the work have appeared in past numbers of MIND. Critical Notice will follow.

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Civilisation and Progress: being the Outlines of a new System of Political, Religious and Social Philosophy. By JOHN BEATTIE CROZIER. London: Longmans, Green & Co., 1885. Pp. 453.

The "New Organon" (Part i.) is the study of the mind as a concrete whole, in the manner of the "seers," such as Carlyle: this method the author aims at reconciling with the scientific method of Comte and Mr. Spencer. "The Goal" (Part ii.), "the end that Nature has at heart," is "the expansion and elevation of the individual mind". "Liberty and expansion are ends in themselves, order and duty are only means." The error of Comte's politics was that, instead of the elevation and expansion of the individual, he made the order and stability of society as a whole his chief concern. In Comte's view of religion (Part iii., "The Religion of Humanity") there is "a confusion of planes". "Religion, in its true and final form, will have no effect on Action, but will be restricted to giving that harmony and satisfaction to the Intellectual, Moral and Emotional sides of our nature, which is necessary to their balanced and healthy activity." (Part iv., "Religion".) Its object must in the end be "a divine mind behind the world"; it cannot cease to be in some sense anthropomorphic. The last two Parts of the book (v., "Government," vi., "Theory of Progress") are chiefly concerned with more special political theories. "The material and social conditions of men" are, the author holds, "the controlling factor in civilisation and progress". "Mr. Spencer, by attaching the problem of Civilisation to a remote, abstract and impersonal law of Nature, rather than to immediate, human and concrete causes, has left the problem still unsolved." On the other hand, civilisation is not to be best advanced, as Comte held, "by primarily addressing the hearts and imaginations of men, by appeals to their consciences and exhortations to duty and self-sacrifice"; but "by ameliorating the material and social conditions of men, in the belief that, out of the improved conditions, the higher morality will arise of itself".

The Social Philosophy and Religion of Comte. By EDWARD CAIRD, LL.D., Professor of Moral Philosophy in the University of Glasgow. Glasgow: James Maclehose & Sons, 1885. Pp. xx., 249.

The central principle of Comte's philosophy ("the vital spot," "the Achilles' heel") is the idea of a "subjective synthesis". This idea is an advance on the individualism of Locke and Hume with which Comte started, and from which critics of his system such as Littré and Mill never escaped; but because he was unconscious of the philosophic movement of which he formed part, of his real agreement with modern "metaphysicians," who, equally with himself, reject the abstract individualism of the last century, his synthesis remained imperfect. His imagination had, indeed, escaped from the presuppositions of his understanding, and in the adoration of space and of the earth "optimism, which is rejected at the beginning as truth, is brought back in the end as poetry". But this optimism can be theoretically justified; for, when we once depart from the purely individual point of view and, with Comte, regard man as the reality and the individual as a mere abstraction, we are compelled to seek a higher unity in which the opposition of Nature and Humanity also disappears. Comte's position resembles Kant's; it is intermediate between the philosophy of the last century and that of Kant's idealistic successors. Inferior to Kant in power of speculative analysis, Comte was able to give a kind of insight into the social needs of modern society such as we could not expect to gain from Kant. The defect of his synthesis is that it is not "subjective" and not "relative" enough. A step further would have brought him to see the identity of a complete subjective synthesis with an

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objective synthesis, and to the doctrine of a relativity in which humanity itself is seen as an organic part of a larger whole. When this position is attained it is no longer necessary to deny the reality of the individual; for, if the individual can only exist as a unit in the social organism, humanity on the other hand can only find its realisation in the individual. Through not recognising this, Comte is unjust to Protestantism and to the revolutionary movement, regarding them as exclusively negative, while they had really a positive value, in so far as they reaffirmed the direct relation of the individual to the unity of the whole. His historical treatment of Christianity is, again, defective, because he recognises only its monotheistic and not its "pantheistic" element, *viz.*, the doctrine of "reconciliation with God, and therefore with the world and self, which is alien to pure monotheism". When the identity of a complete subjective with an objective synthesis has become clear, we see that science left to itself tends to unity, that there is no need to impose on it an artificial unity; intellect is not, as Comte says, essentially "dispersive," but might with equal plausibility be represented as tending to a premature synthesis: again, the absolute opposition, supposed by Comte, between intellect and emotion, is a remnant of that "abstraction" against which he himself, in common with idealistic metaphysicians, protests. In conclusion, Prof. Caird acknowledges, notwithstanding all this criticism, the value of much of Comte's teaching, and especially of that which is contained in the *Politique positive*. "Controversy itself," he remarks, "is a kind of homage; for, as Hegel says, 'It is only a great man that condemns us to the task of explaining him'."

Plato and the other Companions of Sokrates. By GEORGE GROTE, Author of the *History of Greece*. A New Edition in Four Vols. London: John Murray, 1885. Pp. xxx., 457; xxiv., 428; xxii., 426; xix., 419.

"In the present Edition, with a view to the distribution into four Volumes, there is a slight transposition of the author's arrangement. His concluding chapters (xxxviii., xxxix.), entitled 'Other Companions of Sokrates,' and 'Xenophon,' are placed in the First Volume, as chapters iii. and iv. By this means each Volume is made up of nearly related subjects, so as to possess a certain amount of unity. Volume First contains the following subjects:—Speculative Philosophy in Greece before Sokrates; Growth of Dialectic; Other Companions of Sokrates; Xenophon; Life of Plato; Platonic Canon; Platonic Compositions generally; Apology of Sokrates; Kriton; Euthyphron. Volume Second comprises:—Alkibiades I. and II.; Hippias Major—Hippias Minor; Hipparchus—Minos; Theages; Erastæ or Anterastæ—Rivales; Ion; Laches; Charmides; Lysis; Euthydemus; Menon; Protagoras; Gorgias; Phædon. Volume Third:—Phædrus —Symposion; Parmenides; Theætetus; Sophistes; Politikus; Kratylus; Philebus; Menexenus; Kleitophon. Volume Fourth:—Republic; Timæus and Kritias; Leges and Epinomis; General Index. The Volumes may be obtained separately."

Myths and Dreams. By EDWARD CLODD, Author of *The Childhood of the World, Jesus of Nazareth, &c.* London: Chatto & Windus, 1885. Pp. 251.

Myths, of which examples are selected from all sources, are explained (Part i., pp. 1-139), chiefly from the anthropological point of view, as the product of the modes of thought of primitive man (assumed to be analogous to those of modern savages and of the less cultivated classes of civilised nations). In Section 4 ("The Solar Theory of Myth") the author accepts, in part, the theory of philologists as to the common

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origin of some groups of Aryan myths, but contends that, in trying to explain all the details of an epic poem, for example, as parts of a sun or dawn myth, they neglect an element that ought to be taken into account, *viz.*, the tendency, when once a myth has been formed, to invest its personages with an independent human interest and, consequently, to modify the incidents of the story. This element has taken the chief place in the Homeric poems, while "in the *Veda* the primitive nature myth, although exalted and purified, is persistent". Strictly speaking, however, the *Veda* is not primitive, but is the product of a relatively high civilisation. Sections 2 and 3 of Part ii. ("Dreams," pp. 143-244) are devoted to "Limitations of Barbaric Language" and "Barbaric Confusion between Names and Things": the rest is concerned with the barbaric theory of the soul, the various beliefs derived from it, and the modifications it has undergone from the stage of "primitive animism" to modern times. The more special object of the book is to explain from the primitive interpretation of dreams the origin of beliefs in the supernatural.

Theosophy, Religion and Occult Science. By HENRY S. OLCOTT, President of the Theosophical Society. With Glossary of Eastern Words. London: G. Redway, 1885. Pp. xiii., 384.

The joint-founder (with Madame Blavatsky) of the Theosophical Society, which since its origin in 1875 has won so much public notoriety, here brings together, with some "Forewords" and an introductory chapter "Theosophy or Materialism—Which?", eleven addresses which he has delivered within the last five or six years, mostly in India, on the nature and aims of a movement that professes to be at once scientific, philosophic and religious. Col. Olcott appears in these pages as an earnest man of the apostolic sort, with no mean expository, or at least hortatory, gift. He is not unacquainted with the later phases of English philosophical thought, and he has satisfied himself that modern thinkers and scientific men are babes, in respect of insight and effective power over nature, as compared with the ancient Indian sages; whose wisdom has been transmitted by occult channels through a succession of favoured or superior individuals till the present time, when the signs declare that it may become the heritage of a larger portion of humanity (from India outwards) and accomplish the regeneration of the race. The book is very well fitted by its frank disclosures to make plain to any readers whether they are of those to whom salvation is to come by this new-old way and who should think of treading it farther.

Thoughts on Science, Theology and Ethics. By JOHN WILSON, M.A., Trinity College, Dublin. London: Trübner & Co., 1885. Pp. 197.

The result of the three chapters on Science, its use and its methods (Part i.) is that scientific and theological modes of thought are, "from the nature of things, incompatible". In Part ii. (on Ethics, its object and scope, the origin, nature and sanction of the moral code) the author defines ethics as "the science of social conduct". The rules of social conduct are found to have arisen from "the necessity of social co-operation". The really effective sanctions of these rules, or of "the moral code," are the legal and the social sanction, together with "the subjective sanction"; the supernatural sanction has had little or no influence on morality when it has not had an evil influence. If we take Religion in the theological sense of worship of "a man-like ghost," science can have nothing to do with religion; "but accepting as a definition of the word *religion*—the obligation or sense of duty which rests on the minds of men arising from the felt relation in which they stand to some superior Power, it becomes possible for science to have a religion".

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The Common Sense of the Exact Sciences. By the late WILLIAM KINGDON CLIFFORD. With 100 Figures. ("International Scientific Series.") London: Kegan Paul, Trench & Co., 1885. Pp. xiii., 271.

The editor of this volume, "K. P.," explains that it was originally (from about 1875) to have been entitled "The First Principles of the Mathematical Sciences explained to the Non-Mathematical," and got its present name from the author only shortly before his death in 1879. There were to be six chapters—on Number, Space, Quantity, Position, Motion, Mass. Of these, Clifford left only the first, second and fifth, with part of the third. The present editor, who took up the task of preparing the book for press when it fell from the hands of the late Prof. R. C. Rowe, has sought, in conformity, as far as possible, with the author's spirit, to complete the account of Quantity, to treat of Position (pp. 147-226), and, in lieu of the other non-extant chapter on Mass, to supplement the account of Motion, in c. 5, with two short sections on the Laws of Motion and on Mass and Force. His work in these extensive additions and otherwise throughout the volume has certainly been far from light, and deserves all acknowledgment. Clifford's own exposition is marked by all his well-known characteristics, but does not appear to contain anything novel, in point of *principles*, beyond what it contained in his "Philosophy of the Pure Sciences" at the end of Vol. i. of his collected *Lectures and Essays.*

Physical Expression, its Modes and Principles. By FRANCIS WARNER, M.D. Lond., F.R.C.P., Assistant Physician and Lecturer in Botany to the London Hospital, formerly Physician to the East London Hospital for Children. With 51 Illustrations. ("International Scientific Series.") London: Kegan Paul, Trench & Co., 1885. Pp. xx., 372.

The term "expression" in this book denotes all movements that are signs of any state whatever of an organism animal or vegetable; but it tends to become restricted in practice to movements that denote states of organic life rather than of mind. The author, however, desires by observation and analysis of "all physical phenomena coincident with the manifestation of mind" to supply "a preliminary stepping-stone" to the study of mind itself. For "mind" he would prefer to substitute the term "mentation," by which he intends to describe all processes in the brain that are accompanied by mental activity, without any hypothesis as to the nature of this activity in itself. The characteristic of the present set of researches is that, both by modified forms of the graphic method of studying movements already employed by other experimentalists and by the study of postures, he seeks to describe as accurately as possible various nutritive states of the organism; movements and postures, for example, of the hand ("the energetic hand," "the nervous hand," &c.,) in health and in disease, in a low and in a high state of energy, in the sane and in the insane, being all referred to a normal or abnormal state of nutrition. Even in studying actions that are considered as signs of "mind" and not simply of "life," it is the modifications produced by different nutritive states of the brain that are analysed, rather than the nature of the movements as determined by the idea or feeling they express. These researches may on the whole be considered as preliminary to researches such as those of Darwin in which movements of expression are considered in relation to the ends they subserve, rather than as a stepping-stone to psychology in general. Subjective psychology the author does not profess to take into account; he denies that there is any means of learning anything about "subjective conditions" except study of their physical manifestations. A special feature of the work is that much attention is devoted to the movements of expression in children.

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Knowledge and Reality. A Criticism of Mr. F. H. Bradley's *Principles of Logic.* By BERNARD BOSANQUET, M.A., Late Fellow and Tutor of University College, Oxford. London: Kegan Paul, Trench & Co., 1885. Pp. xi., 333.

The author, who wrote at some length on Mr. Bradley's doctrine of "Fact and Inference," in MIND XXXVIII., here offers a series of studies on other questions raised in the *Principles of Logic;* confining himself to topics of properly logical import. Mr. Bradley, he thinks, while being an effective pioneer in the present forward movement of English philosophy which seeks to assimilate what is really great in European philosophy, has, in some external matters and in some that are more than mere externals, attached himself, perplexingly, to writers of the present reaction in Germany, which, however it may serve a useful purpose there, can only work harm here if sympathy with it should restore the rule of traditions that we are just beginning to lay aside. The object, accordingly, is to show how Mr. Bradley's essential and original conception may be disengaged from some peculiarities which he apparently shares with reactionary logic; also, in any case, to call attention to the leading ideas of a work "which deserves to be epoch-making in English philosophy".

The Fundamental Science. By HENRY JAMES CLARKE, A.K.C., Vicar of Great Barr, &c. London: Kegan Paul, Trench & Co., 1885. Pp. xxiv., 265.

"The fundamental Science" is concerned with the Infinite,—"a kind of existence which the conditions of our intellectual constitution preclude us from defining in relation to either Time or Space," but which can be "conceived" although not "imagined". No phenomenal series of causes and effects is complete in itself; hence the phenomenal, the manifold, can only be explained as having its origin in "a Cause, Single, Simple, and Eternal". Unless the Infinite is created by the mind which conceives it, it is recognised as something that *is.* "My recognition of it presupposes that it is cognoscible. If it is cognoscible, it may be expected to yield materials susceptible of investigation and available for the construction of a Science" (c. i., "Cognoscibility of the Infinite"). The creation of the world by the infinite Cause is to be conceived as a creation out of potentiality, not out of nothing (c. ii., "Origination"). The infinite Cause must be a "fundamental Will" (c. iii.), having a purpose which can be characterised as "all-comprehending plan" (c. iv.); further, the human mind, being able to make the distinction of *ought* and *ought not* "has the capacity for ascribing to the Fundamental Mind an *ethical* character" (c. vi.). Several chapters are devoted to discussion of the "Possibility of the Revelation of the Fundamental Mind" (c. v.), "Testimonies to a Specific and Unique Historical Revelation" (c. vii.), "Divinely authenticated Signs and Wonders" (c. viii.), "Incarnate Manifestation of the Fundamental Character" (c. ix.), "Providential Character of the Fundamental Government" (c. x.). Lastly some "Eschatological Conclusions" are drawn in the sense of liberal theology (c. xi.).

Properties of Matter. By P. G. TAIT, M.A., Sec. R.S.E.; formerly Fellow of St. Peter's College, Cambridge; Professor of Natural Philosophy in the University of Edinburgh. Edinburgh: A. & C. Black, 1885. Pp. viii., 320.

The author, in the midst of his useful physical work continued in this volume, is as amusing as ever on the subject of the "metaphysicians," and has pressed one of them into the service of his playful humour. In an Appendix, pp. 286-91, Professor Flint furnishes a statement of twenty-five "Hypothe-

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ses as to the Constitution of Matter," described by Professor Tait himself, p. 12 n., as "a remarkable collection of such (now historical) speculations". "Now historical" is not meant for praise, and is a little hard upon Sir W. Thomson, who is one of the offenders. Professor Tait has also taken to quoting Kant, but evidently not with comfort, and is apt to drop him incontinently. There is some very queer "metaphysics" of his own in chap. i. "Introductory"; and his logic might be better. Thus we read at p. 4: "The objectivity of energy is virtually admitted in a curious way, by its being advertised for sale"; but on p. 11 it is said: "To 'have its price' is not conclusive of objectivity, for we know that Titles, Family Secrets and even Degrees are occasionally sold". This is not good logic.

Scientific Romances, No. I. "What is the Fourth Dimension?" By C. H. HINTON, B.A. London: W. Swan Sonnenschein & Co., 1884. Pp. 32.

A very suggestive and well-written speculation, by an inheritor of an honoured name. Urging the importance of supplementing "mechanical science by a just consideration of the constitution of the knowing faculty and the conditions of knowledge," he prefers not to ask directly, 'What is knowledge?—What constitutes experience?' but to get out "beyond the horizon of actual experience" by the other way of "questioning whatever seems arbitrary and irrationally limited in the domain of knowledge": in the present case, the limitation of the dimensions of space to three. He works out the main properties of four-dimensional space, as far as they can be inferred by analogy from the relation there is between actual space and (abstract) space of fewer dimensions, and then tries, in different ways, to determine "what relations beings in four dimensions, if they did exist, would have with us". Here is an interesting specimen of his manner:—"If we are in three dimensions only, while there are really four dimensions, then we must be, relatively to those beings who exist in four dimensions, as lines and planes are in relation to us. That is, we must be mere abstractions. In this case, we must exist only in the mind of the being that conceives us, and our experience must be merely the thoughts of his mind—a result which has apparently been arrived at, on independent grounds, by an idealist philosopher".

An Analysis of the Principles of Economics. Part I. By PATRICK GEDDES. Read before the Royal Society of Edinburgh 17th March, 7th April, and 7th July, 1884. London: Williams and Norgate, 1885. Pp. 40.

The author's aim is to treat the subject matter of economical science (which is to be regarded as essentially a social science) according to the method of each of the preliminary sciences in succession. From the point of view of physics (c. i.) producers and consumers are to be regarded as producing and consuming mechanisms; the result of this mode of consideration is that a far larger amount of productive labour has pleasurable stimulation ("aesthesis") for its end than bare preservation. The introduction of biological considerations (c. ii.) shows how production may bring about either development or degradation of the individuals who produce and consume. In c. iii. ("Psychological Principles") the author argues that altruism as well as egoism must be taken into account by economical science among the motives of production.

Profound Problems in Theology and Philosophy. By the Rev. GEORGE JAMIESON, B.D., Minister of the First Charge, Old Machar. London: Simpkin, Marshall & Co., 1885. Pp. xxix., 629.

This work, in nine Chapters (pp. 1-370), on Christian theology is

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supplemented by twenty-five Excursuses on special topics, of which some are more distinctively philosophical in character: "On the ground of Human Immortality" (398-404): "The Connexion of Body and Soul" (414-9): "The Psychological Problem" (483-524): "The Problem of Free-will in Man" (526-35): "The Processes of Mind" (545-56). The author contends for a knowledge of Substance beyond phenomena—thus at p. 501: "There is a substance at the foundation of all being which deserves the name of *spirit;* and to see what is the connexion which subsists between the illimitable substance so denominated and the terminal substance which we call *matter*, I say that the former, as primitive substance, has *energy* and *generic quality* as its inherent attributes; and that matter is in its proper foundations a specific quality thereof, originated in the form of atoms. . . . All this however has respect to but one fundamental side of spirit. This fundamental side, which I refer to as Ether, presents only the objective basis of primitive substance, which yields what we call matter. There is obviously a subjective or crowning basis of primitive substance, through which alone we can account for the phenomena of *mind*."

(1) *Energy, Efficient and Final Cause.* (2) *Development; What it can do and what it cannot do.* (3) *A Criticism of the Critical Philosophy.* (4) *Herbert Spencer's Philosophy as culminated in his Ethics.* ("Philosophic Series," II., III., VII., VIII.) By JAMES M'COSH, D.D., &c., President of Princeton College. Edinburgh: T. & T. Clark, 1884. Pp. 55, 50, 60, 71.

In the first of these pieces (continuing the Series begun by the earlier piece noticed in MIND XXXVII., 143) "an attempt is made to clear up the subject of Causation, which has become considerably confused". "David Hume, in establishing his philosophical scepticism, laboured with all his might to loosen the causal connexion." Dr. M'Cosh's attempt to reverse the process consists in arguments to show that we have a "primitive cognition" of power in causes, both material and mental, to produce their appropriate effects. Five sections deal successively with "Physical Causation," "Psychical Causation," "Causation Subjective," "Various Sorts of Causes," and "Final Causes". The author treats the theory of conservation of energy at some length, seeking not only to explain it but also to "keep it within its proper limits".

In the second piece the question is put, "What is the unity in Development?" The answer given is that development is "organised causation for ends," of which in nature there are two classes: (1) "general ends," such as the harmony that is the result of the uniformity of law; and (2) "special ends," consisting in the good of various kinds of living beings. The great scientific work of the past age has been to show what evolution can do; that of the coming age is to show what it cannot do. It cannot give an account of the origin of things; it cannot explain the nature of the power that works in development; and it cannot of itself give us ends in nature. The appearance of new powers in the ages, of life and mind after matter and of the higher faculties of the mind after the lower, is not explained by evolution. At the same time "it is of no use denying in our day the doctrine of evolution in the name of religion or any other good cause".

The third and fourth pieces belong to the "historical" part of the Series, as the others to the "didactic" part. In the third Dr. M'Cosh expresses the opinion that the principles of Kant's ethics, "if carried into the region of speculative reason, would establish positive truth, without illusions of any kind," while "the phenomenal and illusory principles of

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the Kritik of the Pure Reason, if carried out in a Kritik of the Practical Reason, would undermine morality". The proper office of the metaphysician is not, as Kant says, "to purify the *a priori* principles by criticism," but to formulate these principles (or "intuitions" as Dr. M'Cosh would prefer to call them) "without addition or diminution". Kant did not meet Hume's primary position, as he ought to have done, but accepted from him the "phenomenal theory": the consequence of this first error of assuming scattered "impressions" on which the mind must impose its own forms, instead of asserting the self-evidence of the existence of a real self and real things outside, of which we know the primary qualities "directly and immediately," is that Kant's system leads logically to idealism or to agnosticism, as is shown by the development it has undergone at the hands of his followers of different schools. "'Back to Kant,' but back beyond him to what he looked to or should have looked to, and by which his views and ours are to be tested, to the facts of our mental nature."

In criticising Mr. Spencer's philosophy, Dr. M'Cosh finds that "there is one great omission in his enumeration of the original agents from which the actual phenomena of the world are developed. In this process he does not call in mind." Mr. Spencer, he thinks, "is successful in showing that as geological ages have run on there is a constant increase in the general amount of happiness". He has also established another point, "equally if not more important," *viz.*, "that nature prepares for the introduction of morality". The *Data of Ethics*, however, would have been better described as a *Preparatio Ethica;* for although he has shown "that there are aids to human virtue in prearrangements to call it forth and maintain it," Mr. Spencer has "not entered the subject of ethics, which has to look to character and to voluntary acts of human beings". Neither Mr. Spencer's philosophy nor that of Mill, whom also the author "had the courage to oppose when his reputation was at its greatest height," "meets the demands of our intellect or the cravings of our heart".

Hegel's Æsthetics. A Critical Exposition. By JOHN STEINFORT KEDNEY, S.T.D., Professor of Divinity in the Seabury Divinity School, Faribault, Minnesota; Author of *The Beautiful and the Sublime.* ("Griggs's Philosophical Classics.") Chicago: Griggs & Co., 1885. Pp. xviii., 302.

Parts i. and iii. of this volume are a condensed exposition of the corresponding parts of Hegel's *Æsthetik*, accompanied by criticisms, which are kept separate from the expository part of the book by enclosure in square brackets. The second part of the *Æsthetik* having been translated (by W. M. Bryant), the author has substituted for it "an original disquisition, in language approaching nearer the vernacular, and with more immediate regard to present æsthetic problems; yet following also the pathway marked out by Hegel, and giving the substance of his thoughts". The chief aim of this disquisition is to establish the distinction between the "subjective" (or variable) and the "objective" (or invariable) element in the appreciation of works of art; between "the beauty which depends on the attractiveness of a state of things that is transitory" and "that which depends on the ultimate reality, which is permanent". Appreciation of the first kind of beauty is the province of "the lower criticism" which occupies itself with the technical qualities of artistic work and the subjective impression got from it; "the higher criticism" has for its province "whatever in the emotion of the beautiful can only be explained from the ideal of the ultimate perfection, which is the normal and essential constitution of the universe, is the common element in all subjectivity, and thus a part of the true objective". The author goes on to expound the Hegelian

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view of the historical development of art: showing how in the first or symbolic period "the spiritual is weighed down by the corporal and material and struggles to be free"; how "in the classic period there is a momentary equilibrium"; while in the third or romantic period "the spirit retires from nature, refuses its allegiance, and returns to it as ideally its master".

Outlines of Metaphysic. Dictated Portions of the Lectures of HERMANN LOTZE. Translated and edited by GEORGE LADD, Professor of Philosophy in Yale College. Boston: Ginn, Heath & Co., 1884. Pp. xii., 166.

Outlines of the Philosophy of Religion, &c., as above. Translation edited, &c., as above, 1885. Pp. viii., 155.

A beginning is here made of translation of the series of eight small volumes of *Grundzüge*, giving the dictated portions of Lotze's courses of lectures, which have been noted in these pages as they appeared in the original during the last three or four years. The series has had a very large sale in Germany, and English readers will, it is hoped, enable Prof. Ladd and his publishers to carry out their thought of adding to the present two volumes, with the *Moral Philosophy* announced to follow before long, at least the *Psychology*, the *Æsthetics* and the *Logic*. No words are needed to commend such an enterprise, now that Lotze's importance as a thinker is so well understood. Prof. Ladd has begun with the *Metaphysic* because of the fundamental importance attached by Lotze himself to this part of his philosophical scheme, following next with the *Philosophy of Religion* for reasons of convenience personal to himself as a teacher. The translation is careful and painstaking, but reads somewhat stiffly. Useful indexes are supplied.

The Elements of Moral Science, theoretical and practical. By NOAH PORTER, D.D., LL.D., President of Yale College. London: Sampson Low, Marston & Co., 1885. Pp. xxv., 574.

The name "Moral Science," because it has "acquired a somewhat profounder signification," is used, rather than "Ethics," to describe the "consistent, articulated and finished system" in which it is here sought "to give the results of careful observations, subtile and exhaustive analyses, clear and careful definitions, verified inductions, logical deductions". "Ethics," according to the author, "more commonly suggests what may be called arranged or classified rules of conduct or behaviour, as given for practical convenience, exclusive of any reference to fundamental principles or scientific grounds". He does not, however, neglect such "Practice of Duty," reserving for it Part ii., after treating in Part i. the "Theory of Duty". The topics of Part i. are—the Sensibilities; the Will; Character; the Intellect, its Functions in the Moral Activities and Experiences; Moral Relations; the Moral Feelings; Ethical Definitions and Theories; Education and Development of the Moral Judgments and Feelings; Social Influences as Helps or Hindrances in Morals; the Law of Honour; the Conscience; Cases of Conscience; the Christian Theory of Morals. Part ii. comprehends Duties to Ourselves; Duties to our Fellow-men; the Doctrine of Rights; Duties of Truth or Veracity; Duties of General Beneficence; Duties to Benefactors, Friends and Enemies; Duties to Family and Kindred; the State; Law and its Enforcement; Duties to the State; Duties to Animals; Duties which respect the Physical World; Duties to God; Special Religious Duties.

The Philosophy of Ralph Cudworth. A Study of the *Intellectual System of the Universe.* By CHARLES E. LOWREY, A.M. New York: Phillips & Hunt; Cincinnati: Cranston & Stowe, 1884. Pp. 212.

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The author, who writes from Ann Arbor, Michigan, gives in this "Study," after a few pages on Cudworth's life and works, (1) a sketch of "the Hobbes-Cartesian movement," which Cudworth sought to stem; (2) an account of Cudworth's argument against "Atheism"; (3) a statement of the "characteristics" of Cudworth's philosophy, ending with a view of his theory of knowledge as set out in the posthumous *Immutable Morality*. The design is to work for the rescue of Cudworth from the neglect into which he has been suffered to fall and to induce an examination of the large mass of his unpublished MSS. in the B. Museum. The author has performed his task in a conscientious, if not particularly effective, manner, relying, outside of his author, on the original works of Descartes and Hobbes, and on various historical and critical authorities given in a list at p. 24. The most obvious and serious omission is of Principal Tulloch's *Rational Theology and Christian Philosophy in England in the 17th Century*, in which full justice had already been done to Cudworth, as also to the other Cambridge Platonists (here but slightly touched).

Essais de Critique Philosophique. Par AD. FRANCK, Membre de l'Institut, Professeur au Collège de France. Paris: Hachette, 1885. Pp. xvii., 346.

The doctrine of these Essays is, the author says, a spiritualism not "traditional," but "free and purely philosophical". He protests against the ethical and metaphysical doctrines of the "contemporary English school," which exercises authority "nowhere more than in France". The modern doctrine of evolution, he compares to the ideas of the alchemists; "the dream of the transmutation of metals," he says, "deserves as much indulgence as that of the transmutation of species". This adherence to Cuvier's doctrine of the fixity of species appears especially in the first Essay ("L'Histoire naturelle dans l'Antiquité"), where Aristotle is praised for holding fast to the certainty of the existing distinctions among species, and "leaving hypothesis to his successors," and for his doctrine of final causes. It also influences the critical part of the review of M. Guyau's *Morale anglaise contemporaine* (ix.) and of M. Fouillée's *Critique des Systèmes de Morale contemporains* (xi., "Un Révolutionnaire en Morale"). The historical Essays (the greater part of the book) are, perhaps, of more interest than those that treat of contemporary subjects, both as dealing with matters that are less familiar, and as having been written, for the most part, with no view to their bearing on any particular doctrine of the author. Among them may be selected for special mention "La Philosophie Chrétienne au troisième Siècle" (a study of Origen), and "Le Mysticisme et l'Alchimie au seizième Siècle" (a study of Cornelius Agrippa). In the first of these, the relations of Origen to Philo and to Clement of Alexandria are pointed out; his influence is traced up to the time of his condemnation; then it is shown how "Origenism" reappeared in a new form "in the heterodox theology and in the mystical philosophy, even in the science of the West"; finally, resemblances are shown to exist between the doctrines of Origen and of modern mystics on whom he has had no direct influence. The object of the study of Cornelius Agrippa is to show that he was not a sceptic like the Pyrrhonists of antiquity, or like Montaigne, for example, as has been supposed in consequence of a false interpretation of the treatise *De Vanitate Scientiarum*, but that he was a critic and a reformer (in religion as well as in science). There was much of the charlatan, the author admits, in Agrippa, but the inconsistencies of his character have prevented justice being done to his work. His notion of "magic" was not essentially different from that of Bacon; it was the idea of a new science of nature. Apart from his scientific ideas and his views of religious reform, Agrippa's system is taken from the Hermetic books and the Cabbala.

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La Psychologie allemande contemporaine. (École expérimentale.) Par TH. RIBOT, Directeur de la *Revue Philosophique.* Deuxième Édition, corrigée et augmentée. Paris: F. Alcan, 1885. Pp. xxxiv., 380.

M. Ribot's very serviceable account of present German psychology, originally published in 1879, is not a little altered and added to in this second edition. The net increase of 12 pp. gives no idea of the labour he has bestowed in incorporating with his exposition the main results of the last six years of active work recorded in periodicals like Prof. Wundt's *Philosophische Studien* or set forth in special monographs. Retrenchments at various points render the additions altogether very considerable. The overstrained declaration in favour of the physio-psychological, as against the introspective, method of investigation remains as it was in the Introduction; but in spite of the author's exaggeration at this point, his work in general is much to be commended, and a *good* translation of it would go far to fill a gap that still remains in English psychological literature.

Du Langage et de la Musique. Par S. STRICKER, Professeur à l'Université de Vienne. Traduit de l'Allemand par FRÉDÉRIC SCHWIEDLAND. Paris: F. Alcan, 1885. Pp. 180.

For this French translation of his *Studien über die Sprachvorstellungen* (noticed in MIND XIX. on its appearance) the author has made some additions, of which the most important are c. 22 ("On the Representation of Musical Sounds") and pp. 33-46 of c. 5. This last passage contains a fuller discussion of the researches of Fritsch, Hitzig and Ferrier than was thought necessary in the first edition. In order to meet the opposition of Goltz, Dr. Stricker has repeated many of the experiments of those physiologists, and on the ground of his results maintains the theory of the separation of motor from sensory centres in the cerebrum. He finds that physiological experiments and pathological observations alike confirm the conclusion at which he had arrived psychologically that "pure representations" of words consist of motor and not of sensory images. In the new chapter on musical sounds he contends that the motor element is fundamental in representations of tones as in representations of words. The acoustic element in music corresponds to colour in pictures, the motor element to drawing: and as in the blind the sense of form—which may be appealed to by raised outlines—is detached from that of colour, so in a (comparatively) non-musical person the motor representations become detached (in memory) from acoustic representations; even in the non-musical, however, these last predominate at the time, while musicians also have what they call "abstract" representations of melodies, which are really motor representations. The arguments of Stumpf and Henle against this view are discussed; the author contending that in admitting that melodies can be represented in an "abstract" manner they in effect concede his position. The distinction he had made between movements of articulation properly so called and laryngeal movements is applied to the case of musical sounds; "internal song" is independent of change in the position of the larynx. Dr. Stricker is disposed to believe that the *tensor tympani* plays an important part in the hearing especially of sounds of high pitch.

Le Sommeil et les Rêves considérés principalement dans leurs Rapports avec les Théories de la Certitude et de la Mémoire. Par J. DELBŒUF, Professeur à l'Université de Liège. "Le Principe de la Fixation de la Force." Paris: F. Alcan, 1885. Pp. 262.

After a critical review of the works of other writers on sleep and dreams (Introduction, pp. 1-53), the author discusses the relation of dreams first to the theory of certitude (pp. 55-102) and then to the theory of memory

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(pp. 103-253). In dream, as distinguished alike from the waking-state and from reverie, there is absence of any perceptions from which the "conceptions" (*i.e.*, images) that are passing through the mind can be distinguished. Having acquired in waking-life the habit of referring our perceptions to an external object we make a similar reference of our conceptions in dreams; hence the element of illusion. The testimony of others is the only criterion of perception as distinguished from conception, and this is not infallible; there is always room for doubt. "Speculative doubt," a doubt "purely theoretical" applied to things of which we have at bottom no doubt, "is the appanage of a mind in full possession of its reason and is at the same time the sufficient and absolute distinctive sign of reasoned certitude". In laying the foundation of his theory of memory as "the fixation of force," the author discusses at some length the doctrine of the transformation of physical forces. He argues that through the tendency of all forces to equilibrium the "transformability of force" will at length be practically exhausted; the universe must approach indefinitely nearer to a state in which there is uniform distribution of heat and no movement of translation. Organisms fix external force in their substance in the form of a state of equilibrium more or less complete. The cause of sleep is accumulation, not expenditure, of force; for, granted that we expend force in acquiring, say, a piece of knowledge, the effect of this expenditure is to fix in the brain other forces in the shape of ideas. An organism may be regarded as consisting of a "central nucleus" of ancestral and personal habits, and, round this nucleus, of concentric layers on which are impressed as on photographic plates images perceived during each day's existence in the past. In the waking-state there is always a "peripheral layer" which alone remains capable of fixing external forces in the form of memories. When the sensibility of the "periphery" (which need not, of course, be physically the superficies of the organism) is exhausted, sleep arrives; psychically nothing now exists but memories and habits; present impressions have practically disappeared with the exhaustion of sensibility. During sleep the peripheral sensibility is reconstituted. The author contends that nothing that has once been impressed on the sensibility ever disappears. He shows (especially from a dream of his own of which he recorded the details accurately at the time and had to seek for an explanation during a long subsequent period) how some momentary impression that in waking-life appears to have been completely forgotten, may be revived in a dream: hence the importance of sleep and dreams for the theory of memory. Among isolated observations may be mentioned (1) the remark that what appears to be metamorphosis of objects in dreams is often only substitution and not transformation of images; (2) the explanation of the class of dreams in which the solution of a problem insoluble for the dreamer is attributed to another person, as "dramatisation" of the habit of thinking in dialogue; and (3) the attribution of the circumstance that we may "dream we are dreaming" to the habit of making the distinction between dream and reality in waking-life and the persistence of this, as of all habitual modes of thought, in sleep.

La Philosophie ancienne. Histoire générale de ses Systèmes. Par CH. BÉNARD, Ancien Professeur de Philosophie dans les Lycées de Paris et à l'École normale supérieure. Première Partie. Paris: F. Alcan, 1885. Pp. cxxviii., 398.

The author's intention in this history of ancient philosophy has been to give a clear view of the philosophical character of each system without going minutely into questions of scholarship; as much biography being given as can contribute to the understanding of the philosophical expo-

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sition. In opposition equally to the schools that reject metaphysics altogether and to those that class it with art and religion as distinguished from science, he contends that the scientific character denied to metaphysics is precisely what distinguishes it from art and religion; that truth, in the strictly scientific sense, has been present from the first in philosophical systems; that this element of truth, once brought to light, is independent of the genius of those who created the systems; and that the truth of each system survives and becomes an integral part of human thought. Thus there has been real progress in philosophy as in the positive sciences: and a modern critic and historian of philosophy, unless he is incompetent, occupies a position from which he can pass judgments equally secure with those of historians and critics generally. In two sections that follow the general Introduction (xlix.-cxxviii., "Les Limites et les Antécédents de la Philosophie ancienne," "L'Orient et la Sagesse orientale") M. Bénard shows in what way mythology, poetry, gnomic sentences, &c., influenced ancient philosophy, and, while giving a short sketch of the chief Oriental philosophies, maintains that Greek philosophy was almost entirely self-developed. He denies, indeed, that there is anything that can, in strictness, be called an Oriental philosophy. There are in Egypt and the East no systems marked with an individual character; everything is vague, impersonal, and generally of doubtful authorship. Above all the influence of positive science and the scientific spirit is absent: what is called the philosophy of India, for example, is a means of redemption of the individual soul from evil, and thus is subsidiary to religion; although it contains philosophical elements it is not disinterested enough to be called a philosophy. The present volume only deals with pre-Socratic philosophy, with Socrates and with the founders of "the minor Socratic schools," *i.e.*, all those who were directly inspired by Socrates except Plato; but the plan of the work includes the history of philosophy to the closing of the schools by Justinian. The volume ends with a study of the Sophists (pp. 247-395). Modern criticism, as represented by Grote on the one hand and Hegel on the other, has, the author admits, for the first time explained the part of the Sophists in the movement of Greek thought; but in attempting their rehabilitation he maintains that it has gone too far. The scepticism of the Sophists was necessary in order to effect the transition from the philosophy of the pre-Socratic schools with its search for physical principles to the philosophy of Socrates and his successors with its investigation of human nature; but they themselves, like the ancients generally, were unconscious of this; they were only concerned to teach the art of making the appearance of truth pass for the truth itself which they did not believe to exist. This is the judgment passed on them equally by Xenophon, by Plato and by Aristotle, and accepted by all the centuries up to the present. Whatever may be determined as to their historical function this judgment on their character cannot be reversed.

L'Origine dei Fenomeni psichici e loro Significazione biologica. Di G. Sergi, Prof. di Antropologia nell' Università Romana. ("Biblioteca Scientifica Internazionale.") Milano: Dumolard, 1885. Pp. xxv., 454.

In the present volume the author is more concerned with general principles and less with any special line of research than in his former work *La Teoria fisiologica della Percezione* (noticed in Mind XXV.). He has also in view the practical bearing of his doctrine, its religious and (to some extent) social applications; indeed it is on this that he lays most stress. Psychical functions are to be considered simply as functions of the organism; that is the only scientific way of treating them. Psychology is

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that branch of biology which (from its own point of view, however, and not from that of physiology) treats of the "protective" functions of sensation and motion ("æsthokinesis")—the functions of "relation" as distinguished from those of nutrition and reproduction. "Sensibility" is a universal function of organic matter; in its lowest stage it is identical with irritability; it then becomes "unconscious" and afterwards "conscious" sensibility, acquiring its specific character in nervous tissue. Throughout the whole course of evolution mind has for its function "protection in the struggle for existence". Since it is connected with all other functions as the nervous system is connected with all other organs, "mind" must not be isolated from "life". In the earlier chapters of the book (cc. i.-viii., 1-135) this view is set forth in its generality; then the author goes on to consider the psychical functions "in the animal series" (cc. ix.-xi., 137-247) and "in the human races" (cc. xii.-xv., 249-426), supporting his conclusions always by the results of the most recent investigations. "Pleasure and Pain" (c. xvi.) are described as the primitive form of the protective function, and as derivatives of the tendency to self-preservation inherent in all matter. The short concluding chapter (c. xvii.) states briefly the author's doctrine in its application to practice (insisted on throughout): "the protection of man, as individual and as species, alone or collectively, comes only from man," who is to obtain it by scientific knowledge of himself, of society and of nature.

Die Entstehung des Gewissens. Von Dr. PAUL RÉE. Berlin: Duncker (C. Heymons), 1885. Pp. 253.

The author, who has already published an essay on the origin of the moral feelings (see MIND VIII.), now seeks to trace the origin of conscience, which he describes (rather than defines, since "an exact definition" would be more exact than that which men understand by conscience) as consisting in approval or disapproval of feelings and actions classed as moral or immoral. Egoistic and altruistic feelings such as love and hate, pity and malevolence, have always existed in man; but approval and disapproval of these feelings as "good" or "bad" have their origin in assignable causes: and it is by this approval and disapproval that both feelings and actions acquire their specific moral quality; no intensification of the feeling of compassion itself, which Schopenhauer, for example, regards as the essential element in morality, would make it a distinctively moral feeling. By a historical explanation of conscience, the belief in a supernatural cause of phenomena hitherto inexplicable will be driven from its last retreat. The explanation is found in commands imposed by the State and in penalties attached to disobedience. Limits were imposed by the State on the action of individuals for the sake of maintaining peace, which was constantly broken when everyone was allowed to avenge injuries done to himself. Revenge is not, as has been said, a kind of "primitive justice"; words with strictly ethical connotation only arise after the idea of punishment has become associated with actions that are at first felt by those who suffer from them simply as unpleasant and not as "wrong". In the formation of conscience, religious sanctions have added their influence. Men ascribe to the anthropomorphic gods they have created approval and disapproval of actions they have themselves learnt to approve or disapprove. Thus, although laws do not, as the ancients thought, come originally from heaven, they may be said to "return from heaven". The founders of new religions have transformed morality by ascribing their own philanthropic dispositions to the gods and representing their own judgments as of divine origin. The special character of moral judgments ceases to be in any respect enigmatical when

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we keep in mind the distinction between the individual and the race. Customary modes of thinking having been impressed by education (in all its forms, social, religious, &c.), their origin is forgotten: hence, that which historically is a "hypothetical imperative" becomes for the individual a "categorical imperative". The sense of justice, the feeling that retribution is due for actions condemned as "bad," is now seen to be a product of customary association. Punishment (and hence even accidental consequences of actions condemned by conscience), through a kind of "optical illusion," is regarded by those who are punished as a necessary consequence of the past, while it is really inflicted with a view to the future advantage either of the person punished or of others. There are three kinds of repentance: (1) strictly "moral" repentance due to the disapproval of conscience; (2) that which springs from the feeling of pity; (3) "egoistic" repentance, or that which springs from fear of consequences. Of these kinds the last is the strongest, the first by far the weakest. Conscience is like a constitutional king: "it reigns, it is almost honoured as a god, but it does not govern"; the egoistic or altruistic disposition that is predominant really governs, as in a parliamentary state the party that happens to have the majority of votes. This being so, the demonstration that the categorical imperative really originates in experiences of utility to the race will have little influence on practice. But in any case it is not to be concealed that a purely theoretical investigation of conscience ends in the conclusion that the feeling of absolute obligation "remains with us, like the hero in the fable, only so long as we ask no questions about its parentage".

Lehrbuch der Psychologie vom Standpunkte des Realismus und nach genetischer Methode. Von Ph. Dr. WILHELM VOLKMANN RITTER VON VOLKMAR, weil. o. ö. Professor der Philosophie an der Universität zu Prag, &c. *Des Grundrisses der Psychologie* Dritte sehr vermehrte Auflage. Zweiter Band. Cöthen: O. Schulze, 1885. Pp. v., 570.

Prof. C. S. Cornelius of Halle, who has had charge of this second edition of the deceased W. Volkmann's great work (*third* edition, if the original smaller *Grundriss* of 1856, out of which the *Lehrbuch* grew by 1875-6, is counted as first), has been able to complete his revision within the time announced upon issue of Vol. i., as mentioned in our notice of that volume (MIND XXXVII., 146). His additions, mainly but not exclusively bibliographical (see, for example, the long Note under § 111, on "Apperception") increase the body of the present volume by 14 pp.; further, the "Catalogue of Works cited," given at the end, now occupies 23 pp., instead of the 10 pp. within which Volkmann had (by omissions) confined it. One feature of the previous edition is fortunately absent—the appalling list of "Misprints" by which it was disfigured. In its now improved form, the *Lehrbuch* is, without exception, the most useful, because most comprehensive, treatise that any psychological student or worker can have by him. Its value, however, is by no means confined to its comprehensive fulness; the author having been no mere compiler, but a powerful systematiser if not also an independent inquirer. We hope, at some later time, to be able to do justice to its merits in these pages.

Katechismus der Geschichte der Philosophie. Von Thales bis zur Gegenwart. Von Lic. Dr. FRIEDR. KIRCHNER, Zweite, vermehrte u. verbesserte Auflage. Leipzig: J. J. Weber, 1884. Pp. viii., 428.

The author of this "Catechism," which has nothing of the catechetical form in it, has been less successful than with his *Catechism of Psychology* noticed in MIND XXXIV., 318. If it was at all possible to give within the compass of so small a handbook a fairly balanced account of such a

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large multitude of thinkers, greater and lesser, as the author seems to have determined to include, either for the sake of completeness or in the interest of "Examinanden," it cannot be said that he has given it. He is not satisfactory where he expands, and where he catalogues, in order to contract, he is apt to mislead. The book is too obviously 'made'. In a second "improved" edition, there should not have been left, if given in the first, such curious jottings upon English thinkers as that "Henry Lewes and G. Macvicar (!) are ardent followers of Comte" (p. 418); or that "since Comte . . . England occupies itself, as since Bacon, with empirical, especially psychological studies, John Stuart Mill (1806-73), Herb. Spencer, and Jer. Bentham (!) being most prominent" (p. 421). Perhaps no writer about foreigners can avoid giving some shocks of the kind, but there are degrees.

Philosophischer und naturwissenschaftlicher Monismus. Ein Beitrag zur Seelenfrage. Von Dr. M. L. STERN. Leipzig: Th. Grieben (L. Fernau), 1885. Pp. 348.

In order to make room for philosophy in the special sense, it is necessary at the present time to show that natural science is incompetent to give a general view of the world. Scientific facts and doctrines fluctuate too much for it to be possible to found a philosophy on them: philosophy must, therefore, seek truths independent of all changes in the theories and results of the natural sciences. There are strictly philosophical questions, the solution of which is independent of everything in natural science, although, at the same time, many results of natural science give indications as to the right solution of metaphysical problems (Part i., pp. 15-204, "Metaphysische Vorbegriffe"). The conceptions by means of which we explain the world to ourselves are subjective and do not express the reality of things, but only correspond to it. According to this view, however, knowledge is still possible; for when we have established a distinction in the world of phenomena we know that there is an objective distinction corresponding to it, although we do not know the real nature of that distinction. By investigation of consciousness, we can obtain a result of unconditional validity as regards the nature of the soul (Part ii., pp. 205-260, "Die Seelenfrage"). Analysis of phenomena shows that there must be a real distinction of substance corresponding to the phenomenal distinction between consciousness and matter. Natural science, therefore, may settle all questions that lie within the limits of the natural world, but not go a step beyond. Thus, there can be a scientific monism taking into its view the whole of nature while it excludes consciousness; but monism in the complete philosophical sense is unattainable. The unconditionally valid result of philosophy, as regards the soul, can be brought into harmony with the doctrine of evolution (Part iii., pp. 261-312, "Menschliches und thierisches Bewusstsein") and with the last results of physiology (Part iv., pp. 313-348, "Gehirnentwicklung und Denkfähigkeit"); for however much thought may be dependent on relations of matter in the brain, and whatever reciprocal action of the soul and matter there may be, thought is still not identical with motion or with any other relation of portions of matter to one another.

Prolegomena zu Forschungen über die Einheit des Geisteslebens in Bewusstsein und That der Menschheit. Von RUDOLF EUCKEN, Professor in Jena. Leipzig: Veit, 1885. Pp. 113.

This book, as the title indicates, is only introductory to the author's philosophical system. Here he states his principle and his method, but not his results. According to the principle laid down, a philosophical explanation of things must take the form of an expression of the activity,

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both speculative and practical, of the mind as a whole. The method of philosophy is not to be "psychological" but "noölogical". The psychological (or purely historical) method is a necessary preliminary to philosophy, but does not itself answer questions that are properly philosophical; it is content to set forth the actual sequence of phenomena without determining their inner relations. The author recurs to an idea he has already developed in his *Geschichte der philosophischen Terminologie* (noticed in MIND XIII.) and elsewhere, *viz.*, that since the philosophical conceptions that are active at present sum up the results of past thought, a critical study of their history must of itself determine in great part the true direction of modern speculation. What antiquity and the Middle Ages expected from "metaphysics," the modern period expects from "theory of knowledge". Aristotle's metaphysics was not pure ontology, but was in relation to Greek life, and was of value just because it was an expression of actual life. Scholasticism turned the conceptions of Aristotle into a system of pure abstractions; and the danger of philosophy still is that it should be too abstract and out of relation to human life. The modern conception of "theory of knowledge" is to be adopted so far as it makes clear the necessity of a fundamental investigation of mind; but such a fundamental investigation ought not to be exclusively an investigation of "knowledge for itself," but of the activity of the mind as a connected whole. The true aim of philosophy is not to force "the living content of existence" into categories as colourless as possible, but to be an expression of mental activity in its fulness, and thus, without becoming "a characterless eclecticism," to leave room for the different views of the world and directions of activity that proceed from differences of personality.

Wahrheit aus meinem Leben. Von CARL LUDWIG MICHELET. Nebst zwei Lichtbildern und vier Stammtafeln. Berlin: Nicolai'sche Verlags-Buchhandlung (R. Stricker), 1884. Pp. x., 548.

The distinguished Hegelian, who has now passed his eightieth year, gives an account in this volume not only of his personal life and experiences, but of the various movements, philosophical, literary and political, in which he has taken part. His aim has been to give a purely objective view both of himself and of the events of his life, rather than, like Goethe, to describe the effect of his experiences on himself; the intention so far as possible to exclude all mixture of *Dichtung* with *Wahrheit* is indicated in the title. In his effort to be exact the author has been aided by having adopted, from an early period, the habit of committing to paper notes of the more important circumstances of his life. He refrains from passing judgment on himself except in the last chapter, entitled "My Individual Character". Here he describes his life as having consisted in a series of conflicts between himself and his surroundings and between the different sides of his character; yet life, he says, does not end in a conflict but in a reconciliation. And this conflict followed by union of opposites does not take place simply in the mind of the philosopher, but is in the nature of things. It is a universal experience that the world really contradicts itself, and after having come to rest in a mean position falls into new contradictions which have to be again resolved, till at length the highest contradictions are brought into union.

Grundzüge der Metaphysik. Von Dr. KONRAD DIETERICH, o. Professor der Philosophie an der Universität Würzburg. Freiburg i. B. u. Tübingen: J. C. B. Mohr (Paul Siebeck), 1885. Pp. 85.

The author aims at giving the general results of modern philosophical

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thought since Kant. His own metaphysical view has been most influenced by the revived monadism of Lotze. "Pure Metaphysic" (Part i.) is divided by him into (1) doctrine of the logical laws according to which we distinguish true being and occurrence from false; (2) doctrine of the forms of intuition in which all objectively valid things and events are represented by us; (3) doctrine of the forms of feeling in which the representations of single things and events are given as real facts. The distinction that runs through this part is that of "being" from events that take place in "real beings". Neither of these kinds of "actuality" can be deduced from the other. For the being of things "the law of inherence," the law that all events are changes in persistent substances, is the fundamental law; for the succession of events, "the law of causation". Absolutely, the real being to which all events are related is one; but from this absolute unity a relative plurality may be deduced. Part ii. ("Applied Metaphysic") is divided into two sections dealing respectively with "Metaphysic of Nature" and "Metaphysic of Spirit". The metaphysic of nature has to determine (1) the simplest elements of the conception of matter, (2) the conception of mechanical connexion, (3) the law of development. Atoms and their motions are not realities outside us, but simple elements of appearances in space and changes of these appearances; yet they present to us an image of the real world. There is a real reciprocal action of "metaphysical atoms" corresponding to the reciprocal action of physical atoms which we represent to ourselves in space. In order to assign its meaning to the idea of an evolution of the whole world, we need a teleological view that shall include both nature and spirit. The problem of "the metaphysic of spirit" is to combine the results of "the empirical sciences of mind" with the results of pure metaphysic. The union of the idea of teleological connexion (combination, as distinguished from modification, of given feelings and presentations by the free activity of the soul) with the idea of mechanical connexion according to the law of cause and effect, forms a reconciliation of the doctrine of freedom of the will with this law. Thus the relation between free development of the soul on the one hand and psychical mechanism on the other is identical with the relation between teleological connexion and mechanical connexion generally.

Die Italienische Philosophie des neunzehnten Jahrhunderts. Von Dr. KARL WERNER. Erster Band: "A. Rosmini und seine Schule"; Zweiter Band: "Der Ontologismus als Philosophie des nationalen Gedankens. (Gioberti, Mamiani.)" Wien: G. P. Faesy, 1884-5. Pp. xv., 472; xv., 426.

In these two volumes the author gives an elaborate account of the philosophical systems of Rosmini, Gioberti and Mamiani. The philosophy of this group of writers is described as part of a movement of return of Italian thought to its true basis in Catholicism; the other parts of the general movement being the literary and political movements of the early part of the century. Manzoni, for example, as the author mentions, found in Rosmini's writings, when he became acquainted with them, the philosophical ground of his own artistic activity and of that of the Italian Romantic school. Just as Italian literature became more national in passing from Classicism to Romanticism, so Italian speculative thought became more national in throwing off the influence of the English and French philosophy of the last century and returning to the Catholic philosophy of the Middle Age. The political side of this national movement, the author thinks, injured its intellectual effectiveness. There was a break between the religious and the political consciousness; for the

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expression of the national ideal in practical politics became inconsistent with its remaining a Catholic ideal. Thus in place of a common effort towards the reconciliation of scientific knowledge and faith, towards the regenerative transformation of modern thought in the light of the Catholic idea,—an effort which should have acted first of all on the moral nature and left social and political changes to follow,—there is now on the one side a reactionary Thomism and on the other a philosophy inconsistent with Catholicism. "The new Thomism" must give up its purely negative attitude so far as the undeniable acquisitions of modern research (and these not merely in physical science) require, and must make its speculative ideas comprehensive enough to embrace all the results of thought since the Scholastic period: but in the end everything will be found reconcilable with the Catholic idea.

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NOTICE of some of these has to be deferred till next No.

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IX.—NOTES AND CORRESPONDENCE.

PROFESSOR SIDGWICK ON "PROGRESSIVE MORALITY".

With the kind permission of the Editor, I purpose to make a few remarks, in reply to Prof. Sidgwick's friendly but acute criticisms, which appeared in the last number of MIND, on my recent work, *Progressive Morality*.

Prof. Sidgwick's first criticism is to the following effect: "I do not myself think that what is here [in my chapter on Sanctions] characterised as the 'higher' religious motive, which operates when 'we simply do good and act righteously, because God, who is the supreme object of our love and the supreme ideal of conduct, is good and righteous'—comes strictly under the head of 'sanctions' as defined by Prof. Fowler: that is, I do not think it is clearly a case of pleasure attracting or pain deterring". My definition of a sanction (*Progressive Morality*, p. 4) is 'any pleasure which attracts to as well as any pain which deters from a given course of action'. Now, to a man of lofty religious sentiment, what pleasure can attract to a given course of conduct more effectively than that which accompanies the reflection that it is in accordance with the nature and will of One who is 'the supreme object of his love and the supreme ideal of conduct,' or, on the other hand, what pain can be more deterrent than that which attends the consciousness of thwarting and displeasing such a Being? I own that I cannot perceive the force of this criticism as I do that of those which follow.

On the next point I only find myself to a slight extent in disagreement with Prof. Sidgwick. With reference to my statement that 'in the main we approve of ourselves for having done what is thought right at the time, even though we may have come to think it wrong,' he admits that "this is true as regards the moral judgments of reflective persons," but thinks that "the emotional satisfaction with which we contemplate a past act, performed under a sense of duty, which we have come to regard as mistaken, is at best a very feeble pleasure". What I have myself said (p. 34) is, 'that the subsequent results of our acts and any change in our estimate of their moral character may considerably modify the feelings with which we look back upon them,' though I maintain that 'still, in the main, it holds good that the approval or disapproval with which we regard our past conduct depends rather upon the opinions of right and wrong which we entertained at the moment of action than those which we have come to entertain since'. It is plain that the difference between Prof. Sidgwick and myself on this point is only one of degree, and that not a very important one.

I am obliged to Prof. Sidgwick for drawing my attention to a passage on p. 139, where I have, by implication, made an exaggerated statement. Having on p. 33 stated that 'human nature, in its normal condition, is so constituted that the remorse felt, when we look back upon a wrong action, far outweighs any pleasure we may have derived from it, I speak, on p. 139, as if it were only where the feelings of self-approbation and self-disapprobation are *very* strong, that a man *always* gains more happiness, in the long run, by following the path of duty and obeying his social impulses than by confining himself to the narrow view which would be dictated by a cool calculation of what is most likely to conduce to his own private good'. The word 'very,' I must acknowledge, has crept into the sentence through carelessness, as is tolerably plain from the fact that it does not occur in the corresponding sentence, which follows immediately upon it. In the 'normally-constituted' mind, then, I do not regard the

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feelings of self-approbation and self-disapprobation as being necessarily *very* or exceptionally strong, though I do regard them as being strong. For by a normally-constituted mind I do not mean simply an average mind, but a mind of which the various faculties are recognised as healthily developed and as being in due proportion to one another. It is not necessarily a mind of heroic or exceptional virtue, but a mind representing a 'norma' or exemplar, which, though not always actually followed, admits of being followed by average men. In the case of such a mind I am prepared to reiterate the statement that the pleasures and pains attendant on the feelings of self-approbation and self-disapprobation are 'far more intense and durable than any other pleasures and pains,' though, perhaps, in order to avoid misconception, I ought to have explained, thus early in the book, that, in estimating relative intensity, I include the elements both of quality and quantity. Nor do I regard this statement as inconsistent with the doctrine ascribed, and rightly ascribed, to me by Prof. Sidgwick that 'sacrifice' is an essential characteristic of acts morally approved. It is true that, if a man consciously and deliberately attempts to forecast his subsequent feelings of satisfaction or dissatisfaction, and throws them, as it were, into the scale, he cannot, strictly speaking, be said to sacrifice his 'own good to the greater good of others'. But this, I imagine, is a rare case. Men usually act on much more direct motives than a prospective reference to their own subsequent feelings. Even the best men act, on most occasions, from principles which, indeed, they have learnt to approve, but without any direct regard to the satisfaction they will subsequently experience. And, when they do act on this motive, it seems to me that there is still an element of sacrifice, an element which I have included under that head in my third chapter, namely, the sacrifice of their own lower to their higher good.

The passage which I have quoted from Hume (pp. 40-42) in order to illustrate the analysis of an act of moral approbation was quoted simply and solely for that purpose, and I had no idea that it could be taken (as it has been taken by more than one critic) as committing me to any other parts of Hume's system. I certainly do not agree with the purely subjective 'hypothesis' of Hume, which 'maintains that morality is determined by sentiment,' and 'defines virtue to be whatever mental action or quality gives to a spectator the pleasing sentiment of approbation, and vice the contrary' (*Enquiry concerning the Principles of Morals*, Appendix I.). On the other hand, in reply to Prof. Sidgwick's question, I may say that I do conceive the class to which an action is intellectually referred, before it excites "the appropriate feeling of approbation or disapprobation," as "having *ethical* characteristics—I mean, as being good or bad, right or wrong". I am sorry if my language is at all doubtful upon this point, but it appears to me that the expressions quoted by Prof. Sidgwick himself, such as 'moral judgment' and the like, sufficiently define my position, and that, had it not been for the quotation from Hume which is supposed to imply more than I intended by it, my opinion could not well have been mistaken. And, even within three short pages (p. 45) of that quotation, I find the following passage exactly pertinent to this question, a passage which Prof. Sidgwick must have overlooked: 'When an action has once been pronounced to be right or wrong, morally good or evil, or has been referred to some well-known class of actions whose ethical character is already determined, the emotion of approval or disapproval is excited and follows as a matter of course'.

There is an apparent inconsistency in my account of the logical process of which the moral judgment is the result, as stated in chaps. 3 and 4 respectively, which I am indebted to Prof. Sidgwick for pointing out,

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and which I am glad of the opportunity of correcting. In chap. 3, I speak of referring the actions of ourselves or others to some class, or associating them with certain actions of a similar kind, which are familiar to us, and so determining their character, taking as my instances of such classes a lie, a theft, a fraud, &c. In chap. 4, as Prof. Sidgwick points out, I say that, in the process of forming a moral-judgment, 'there are two possible sources of error. In the first place, the act of reference or association may be faulty, and the action may not really belong to the class to which we refer or really be like the other actions with which we associate it. . . . But, even if the action be referred to its right [proper] head, there remains the second question whether we are really justified in regarding the class of actions itself as right or wrong'. Should my book reach a second edition, I propose, in order to avoid misconception and the appearance of inconsistency, to substitute for the last sentence the two following: 'But, even if the action be referred to its proper head, there remains (in all those cases where the reference is to classes less generic than the ultimate heads of right and wrong themselves) a second and further question. Are we really justified in affixing the ethical stamp of right or wrong to the class of actions under consideration?' The fact is that the process of reference may be to class within class. Thus: Is this a mis-statement; and is every mis-statement or every mis-statement of this kind a lie; and is a lie, or a lie of this kind, wrong? It is only, I should maintain, when we have referred an action to the ultimate head of right or wrong, or to some well-known class of actions whose ethical character has been already determined by or for us, that the emotion of approval or disapproval is excited. But there may be an unlimited number of references to previous heads, before this point is reached.

As regards the test of conduct, Prof. Sidgwick, while praising the manner in which I trace "the progress of morality as the result of the continued application" of the test which I adopt, demurs to my statement (p. 108) that 'wherever any change of moral conduct takes place, unless it be dictated by blind passion, or mere submission to authority, enforced or voluntary, the change is invariably due to some change of opinion on what constitutes the advantage of the persons whom it affects'. "To take Prof. Fowler's own instance," he says, "I should attribute such a change as that which has brought about the abolition of slavery rather to an increased general concern for the feelings of slaves than to a changed opinion as to what constituted their advantage." Surely, if I may venture to say so, Prof. Sidgwick takes the word 'advantage' in a very narrow sense. What can be more disadvantageous to any class of persons than a state of things which constantly degrades them in their own eyes, preventing or checking the growth of any feeling of self-respect, and, at every turn, suggesting their inferiority and dependence? And what can be a greater 'advantage' to them than to deliver them from such a condition? It has been a growing sympathy, I maintain, combined with a fuller realisation of everything that affects the ill or well being (including the 'feelings') of the inferior sections of society that has been mainly instrumental in bringing about the change in the conduct of the higher sections towards them.

Prof. Sidgwick proceeds to say that he has a difficulty in criticising closely my view of moral progress, since he is unable to conceive with any precision the application of the test which I propose. This incapacity appears to arise from two causes: (1) because I 'frankly acknowledge that there are some pleasures and pains which are incommensurable with one another'; (2) because I 'recognise the fact that our pleasures differ in quality as well as in volume'. As respects the first point, I cannot help thinking that he mistakes my meaning, though, perhaps, I may have

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failed to make it as clear as I might have done. I do not mean that every pleasure, say, of the moral or intellectual kind, is incommensurable with every pleasure, say, of the sensual kind, but that a particular pleasure or pain of one kind may, in the case of some men, be so intense that no amount of pleasure or pain of some other kind, or possibly even of the same kind, can be brought into comparison with it. To repeat my own instance, a man who is tormented with the recollection of having committed a great crime, will, as the phrase goes, 'take pleasure in nothing'; while, similarly, a man who is enjoying the retrospect of having done his duty, in some important crisis, will care little for obloquy or even for the infliction of physical suffering. Or, again, a man may be so absorbed in some intellectual occupation, or in spiritual ecstasy, or in the furtherance of some religious or political ideal, or even in the pursuit of his own reputation, that he may become utterly careless of his surroundings and indifferent to physical and even social enjoyments. I need not go further than a very recent example. Can we suppose that any amount of physical enjoyment would have compensated Gordon for the remorse subsequent on a plain dereliction of duty? Prof. Sidgwick challenges me to say "how many grades of incommensurability there are, and what pleasures and pains belong to each grade". I do not think, and have not stated, that the various kinds of pleasures can be definitively arranged in grades, and that these are respectively incommensurable with one another; and all, it seems to me, that my language implies is that there may be individual cases where a pleasure or a pain is so intense or so lasting, or both, that some of our other pleasures and pains sink into insignificance by its side. It is usually, I think, the pleasures and pains attendant on the exercise of our moral, religious, social, æsthetic or intellectual nature which answer to this description, but there are, doubtless, cases, amongst men of a lower type, where the pleasures and pains connected with the love of gain or the love of reputation, or the gratification or frustration of some sensual impulse, may have the same effect. It commonly happens, as a fact, that these "incommensurable" pleasures and pains are characterised by their durability, but, "however limited in duration," I imagine that I can enter into the feelings of those who would prefer such a pleasure "to an indefinitely prolonged pleasurable consciousness" of a feebler and less thrilling kind, "and similarly *mutatis mutandis* of pains". I may observe, however, that the comparison is not always between pleasure and pleasure, or pain and pain, but at least as frequently, if not far more commonly, between pleasure and pain. A man is impelled to the gratification of some desire or to some course of conduct or mode of life, and he feels that, if he does not follow his inclination, all else will be as nothing to him; or, on the other hand, that, if he can not resist some particular temptation or surmount some particular difficulty, his life will become embittered or insipid. And, even where this feeling is not vivid in the prospect, it frequently is so in the retrospect.

I will not enter on the immemorial dispute, whether pleasures differ in kind. So much in a question like this depends on each man's interpretation of his individual consciousness and experience, that argument is usually out of place. I will merely content myself with remarking that I can see no more difficulty in equating differences of quantity and quality in the case of pleasures and pains than in other matters, where we have to deal with differences of quality as well as quantity. In all considerations of this kind, the process must, to a certain extent, be a rough one, but men usually acquire by experience the habit of determining, sufficiently for practical purposes, the extent to which deficiency in one respect may be compensated by superiority in the other.

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I am ready to acknowledge, and am indebted to Prof. Sidgwick for leading me to observe, that my meaning on pp. 94-6 might be made clearer by some changes in arrangement and expression. I ought to have drawn the distinction between 'quality' and 'volume' before saying anything about 'incommensurability,' and I ought then to have proceeded to remark that, though, in ordinary cases, we can roughly equate differences of quality and quantity, there occur, from time to time, in the lives of some men, cases in which no amount of pleasure of one kind would compensate for the loss of a particular pleasure of another, or possibly even of the same, kind, or for the pain arising from the frustration or neglect of some overpowering demand of their nature. This occurrence is most conspicuous in great crises of our existence, but the recollections of most men, if I mistake not, will also supply them with instances from the more ordinary experience of life.

Prof. Sidgwick further criticises my test, by asking "Why is it to be assumed that men's common judgments as to the 'high' or 'low' quality of pleasures are less open to the charge of 'prejudice, fancy and caprice' than their common judgments as to the goodness or badness of actions?" I can only answer by saying that our judgments on the goodness or badness of actions ought to be matters of reasoning, implying an ultimate reference to some test or standard, while our judgments on the high or low quality of pleasures are matters of direct experience, implying nothing more than a reference to our own consciousness, past or present. Of course, the distinction between 'high' and 'low' forms of pleasure is not consciously drawn till man has attained a certain amount of moral, social, religious, æsthetic or intellectual cultivation; but, when he has attained to this point of cultivation, and entertains the corresponding feelings and ideas, he has the power of passing an immediate judgment on the relative value of the various pleasures and pains he experiences, and, in spite of what Prof. Sidgwick seems to imply, I think he usually adopts the distinction of 'high' and 'low' or some corresponding one. Now the 'common judgments' of men on matters of direct experience are, I submit, less likely to be open to the charge of 'prejudice, fancy, and caprice' than judgments which, requiring the application of a reasoning process, are formed independently of such a process. And it is judgments of this latter kind, I find on turning to my book, and not the 'common judgments' of men on right and wrong, as Prof. Sidgwick's words would seem to suggest, with which I connect the words 'prejudice, fancy, and caprice'. What I say (p. 87) is—'If there is no rule of right and wrong, then morality must be, to a large extent, a matter of prejudice, fancy, and caprice'. That the 'common judgments' of men 'as to the goodness or badness of actions' are, as a matter of fact, determined by such a rule, applied consciously or unconsciously, accurately or inaccurately, by themselves or others, is a proposition which I have maintained throughout my book.

Prof. Sidgwick represents me accurately in saying that I prefer to call my ultimate standard of morality 'welfare' or 'well-being' rather than happiness, but he brings, I think, into undue prominence one of the reasons,—what I may call the historic reason,—which I assign for doing so. Mid-way between independent and more substantial reasons, I say of the words 'well-being' and 'welfare,'—'corresponding, too, almost exactly with the *εὐδαιμονία* of Aristotle, they have the advantage of venerable historic associations'. But I am hardly so devoted an Aristotelian as to have been largely influenced by this reason, which is plainly somewhat of the nature of an *obiter dictum*. Be this as it may, however, Prof. Sidgwick regards this correspondence a reason for objecting to my test; "since I find," he says, "that Aristotle, in determining the particulars of *εὐδαιμονία*,

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appeals to just those common moral opinions as to virtue and vice for which a test, in Prof. Fowler's view, is required". If by these words Prof. Sidgwick means that Aristotle accepts these "common moral opinions" without perceiving the necessity of subjecting them to an external test, I cannot agree with his interpretation of the Aristotelian system, and would refer him, amongst other places, to *Ethics*, bk. vi., chs. 5 and 7; *Politics*, bk. i., ch. 2; bk. iii., ch. 12. But I am here evidently touching on matters too remote from my present object to admit of discussion in this place.

As to the 'practical applications of the moral test' in my last chapter, Prof. Sidgwick thinks that they "are, to a great extent, such as ordinary men would admit to be obligatory in any theoretical discussion, however much they may practically neglect them". I entirely agree with this remark; only I think the explanation of the fact that ordinary men practically neglect them, while they theoretically admit their obligation, is that, not being accustomed to apply any external test to their conduct, they do not adequately apprehend the reasons for them, and, therefore, do not realise the importance of observing them in practice. This is the very ground, I think, on which reflective morality is so much better calculated to be of service to men in the conduct of life than what may be called 'intuitional' morality.

The "undue abbreviation" of some of my arguments in this chapter is owing mainly to the conception which I formed of the proper limits of my Essay, but this is obviously a defect which I cannot attempt to remedy in these pages.

I ought not to take leave of Prof. Sidgwick's criticisms without expressing my gratitude to him for the patient attention with which he has followed my arguments and speculations, and, should my Essay ever reach a second edition or be replaced by a larger and more ambitious work, I can foresee the great advantage which I shall derive even from those portions of his review with which I cannot concur. Philosophical criticism, conducted as Prof. Sidgwick conducts it, cannot be otherwise than beneficial to an author.

T. FOWLER.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—The examination of Schopenhauer's *World as Will and Idea*, the special subject of the present Session, has been brought to a close by the discussion of papers on Books iii. and iv., read on March 23, by Mrs. Brooksbank, and on April 27 and May 11, by the Rev. E. P. Scrymgour. Original papers were read, on March 9, by Mr. S. H. Hodgson on "Free-will and Compulsory Determinism"; on April 13, by Miss M. S. Handley on "The Relation of Consciousness to the Organism"; and on June 1, by Mr. E. H. Rhodes on "The Scientific Conception of the Measurement of Time". The papers were in every instance followed by a discussion.

Prof. Höffding, of Copenhagen, on behalf of the Royal Danish Academy of Sciences and Letters, desires space for the following:—

Question de Philosophie. (Prix: la Médaille d'Or de l'Académie).—L'Académie met au concours la question suivante: *Donner un exposé critique des résultats obtenus par la méthode historique dans le domaine de la morale, et développer l'importance de cette méthode pour la philosophie morale en général.* Les mémoires peuvent être écrits en latin, en français, en anglais, en allemand, en suédois et en danois. Ils ne doivent pas porter le nom de l'auteur, mais une devise, et être accompagnés d'un billet cacheté muni de la même devise, et renfermant le nom, la profession et l'adresse de

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l'auteur. Les membres de l'Académie qui demeurent en Danemark ne prennent point part au concours. Le prix accordé pour une réponse satisfaisante à l'une des questions proposées, lorsqu'aucun autre n'est indiqué, est la médaille d'or de l'Académie, d'une valeur de 320 couronnes. Les mémoires devront être adressés avant la fin d'octobre 1886, au secrétaire de l'Académie, M. H. G. Zeuthen, professeur à l'université de Copenhague. Les prix seront publiés en février 1887, et les auteurs pourront ensuite retirer leurs mémoires.

Count Terenzio Mamiani della Rovere, the veteran editor of the *Filosofia della Scuole Italiane* and one of the most indefatigable thinkers and workers of his time, died, at the age of 85, on the 21st of May. Account was given of his philosophical and practical activity in MIND XII., 521 ff.; he is succeeded in the conduct of the Review he established fifteen years ago, by Prof. L. Ferri. The *Rivista di Filosofia Scientifica*, now in its fourth year, has also lost its working editor in Gabriele Buccola of the University of Turin, who died on the 5th of March. Buccola, whose excellent work *La Legge del Tempo nei Fenomeni del Pensiero* was noticed in MIND XXXI., 460, has been struck down when he had only completed his 30th year, but not before he had given proof of no common scientific ability. The latest No. of the *Riv. di Fil. Scient.* (iv. 4) gives the full list of his psychological memoirs produced within the last seven years, and it is a very remarkable one. Francesco Fiorentino, the Hegelian professor at Pisa, has also lately passed away.

Mr. Joseph Brough, of Cambridge University, has been appointed Professor of Logic and Philosophy in the University College of Wales, Aberystwith.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XVIII., No. 3. E. H. Rhodes—A View of the Philosophy of Descartes. W. M. Salter—A Popular Statement of Idealism (i.). T. B. Veblen—Kant's *Critique of Judgment*. Hegel—Introduction to the Philosophy of Religion (trans.). S. W. Dyde—Bradley's *Principles of Logic* (i.) . . . C. B. Pallen—Rosmini's Innate Idea, *A priori* Ideas, and Subject-Object Ideas. Note (Rosmini's *Sketch of Modern Philosophies*). No. 4. L. Noiré—The Problem of Anthropology (trans.). G. S. Fullerton—The Argument from Experience against Idealism. P. Spence—A New Theory of General Ideas. W. M. Salter—A Popular Statement of Idealism (ii.). S. W. Dyde—Bradley's *Principles of Logic* (ii.) . . . .

REVUE PHILOSOPHIQUE.—An. X., No. 4. M. Guyau—L'évolution de l'idée de temps dans la conscience. A. Binet et Ch. Féré—La polarisation psychique. Sikorski—Le développement psychique de l'enfant: ii. L'intelligence. Rev. générale (M. Vernes—Histoire et philosophie religieuses). Analyses et Comptes-rendus (T. Fowler, *Progressive Morality*; R. G. Hazard, *Man as a Creative First Cause*, &c.). Rev. des Period. Nécrologie (G. Buccola, F. Fiorentino). No. 5. J. Lachelier—Psychologie et métaphysique. V. Brochard—Pyrrhon et le Scepticisme primitif. Sikorski—Le développement, &c.: iii. La volonté. Notes et Discussions (F. Paulhan, G. Tarde, Philonous—Un problème de métaphysique: Les difficultés de l'idealisme). Analyses, &c. Rev. des Period. Société de Psychologie Physiologique de Paris. No. 6. G. Tarde—Le type criminel. L. Arréat—La philosophie de la rédemption d'après un pessimiste. F. Paulhan—Sur l'émotion esthétique. Analyses, &c. Notices bibliographiques (J. N. Keynes, *Studies and Exercises in Formal Logic*; J. M'Cosh, *A Criticism of the Critical Philosophy*, &c.). Soc. de Psych. Physiol.

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LA CRITIQUE PHILOSOPHIQUE (Nouvelle Série).—An. I., No. 3. C. Renouvier—Des différents emplois du terme "substance". L. Dauriac—La psychologie de l'artiste. F. Pillon—La formation des idées abstraites et générales (suite). C. Renouvier—La critique littéraire de la *Critique de la Raison pure* (suite et fin). . . . No. 4. C. Renouvier—Examen des *Premiers Principes* de Herbert Spencer. Ch. Secrétan—Une théorie de la connaissance. . . . F. Pillon—Une étude sur les notions d'espace et de temps. F. Paulhan—La réalité des rapports. C. Renouvier—Note sur le baccalauréat. . . . No. 5. C. Renouvier—Les rites sacrés des Brahmanes. . . . G. Noel—Qu'est-ce que la ressemblance? . . .

LA FILOSOFIA DELLE SCUOLE ITALIANE.—Vol. XXXI., Disp. 1. P. D'Ercole—Kuno Fischer e il manoscritto inedito di Kant. L. Ferri—L'idea dellà personalità nella psicologia moderna. D. Cortesi—Ars Nova. T. Mamiani—Della pena capitale. Bibliografia, &c. Disp. 2. L. Pietrobono—Il fondamento psichicho della vita animale secondo il Rosmini e il Darwin. A. Macchia—Alessandro Bain e la libertà del volere. P. D'Ercole—Gli insegnamenti universitari della facoltà teologica. A. Chiappelli—Nuove osservazioni sulle attinenze fra il criticismo kantiano e la psicologia inglese e tedesca. Bibliografia, &c. L. Ferri—Ai nostri associati.

RIVISTA DELLA FILOSOFIA SCIENTIFICA.—Vol. IV., No. 3. G. Cesca—La filosofia scientifica. P. Merlo—Gli studî delle lingue. M. Pompei—La materia considerata come forma d'energia. A. De-Bella—Il diritto e la sua scienza. Note Critiche (B. Battaglia—L'organizzazione economica in rapporto alla genesi della delinquenza. G. Sergi—La filosofia dell' evoluzione nell' Universita Giapponese). Riv. Sint. (F. Puglia—La morale ed il diritto nel naturalismo, i.). Riv. Anal. Riv. Bibliog, &c. No. 4. E. Morselli e. F. Seppilli—Commemorazione di Gabriele Buccola. G. Cesca—La metempirica. M. Pilo—La massa, il moto, lo spazio. L. Luciani—Caratteri logici da seguire nelle indagini sperimentali sulle localizzazioni cerebrali. G. Cattaneo—Idee di Vanini sull' origine ed evoluzione degli organismi. G. Sergi—La psicologia come scienza biologica. Riv. Sint. (F. Puglia—La morale, &c., ii.). Riv. Anal. &c.

PHILOSOPHISCHE MONATSHEFTE.—Bd. XXI., Heft 4, 5. Th. Lipps—Ueber den Raum der Wahrnehmung (i.). J. Borelius—Die Philosophie Boströms u. ihre Selbstauflösung. E. Wille—W. Wundt's irrthümliche Auffassung von Hume's u. Kant's Seelenbegriff. Recensionen. Litteraturbericht (A. C. Fraser, *Selections from Berkeley;* E. Bax, *Kant's Prolegomena*, &c.). Bibliographie, &c. Heft 6, 7. Th. Lipps—Ueber den Raum, &c. (ii., iii.). L. Rabus—Methode u. Methoden: mit Beziehung auf Bd. ii. von Wundt's *Logik*. Recensionen u. Anzeigen. Litteraturbericht. Bibliographie, &c.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. IX., Heft 2. K. Lasswitz—Zur Rechtfertigung der kinetischen Atomistik. F. Dahl—Versuch einer Darstellung der psychischen Vorgänge in den Spinnen (ii.). B. Kerry—Ueber G. Cantor's Mannigfaltigkeitsuntersuchungen. C. Abel—Berichtigung. L. Tobler--Erwiderung. Anzeigen. Selbstanzeigen, &c.

PHILOSOPHISCHE STUDIEN.—Bd. II., Heft 4. W. Wundt—Kant's kosmologische Antinomien u. das Problem der Unendlichkeit. L. Lange—Nochmals über das Beharrungsgesetz. M. Mehner—Zur Lehre vom Zeitsinn (i.). W. v. Tchisch—Ueber die Zeitverhältnisse der Apperception einfacher u. zusammengesetzter Vorstellungen untersucht mit Hülfe der Complicationsmethode. J. M. Cattell—Ueber die Zeit der Erkennung u. Benennung der Schriftzeichen, Bildern u. Farben. E. Kraepelin—Nachtrag zu der Arbeit über die Gültigkeit des Weber'schen Gesetzes bei Lichtempfindungen. G. Lorenz—Berichtigungen zu dem Aufsatze über die Methode der richtigen u. falschen Fälle, &c.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—COMPARISON.

By James Sully.

There has been a tendency in English psychology to undervalue the active side of intellection. The predominance of the doctrine of Association is favourable to the view that thinking is in the main a mere succession of representations determined by conditions lying outside consciousness, and in which the mind is wholly passive. And the manner of regarding all mental products as brought about by the realisation of certain nervous conditions, which naturally attaches itself to the associational view of the mental life, serves still more, perhaps, to fix the psychological habit of treating mental processes as purely passive, mechanically determined events. This tendency appears to me to show itself in a marked way in the common expositions of the nature of the higher intellectual processes, known as thinking. Thus we find that the combination of similar psychical elements is spoken of as though it were merely automatic assimilation, that is to say, the suggestion by one element of its analogue or analogues in our preceding experience. And, more significant still perhaps, we hear of intellect being resolved into relations between feelings, just as though psychical elements somehow found out their

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proper correlates and classified themselves with no aid from the mind itself working under the form of conscious mental activity.

We must, I suspect, seek again to make prominent this idea of mental activity. The absolute distinction between active agent and passive subject has long been abandoned in the physical world. The stone that is struck by the hammer is put into a state of intense activity, a mode of activity determined not so much by the hammer as the nature of the stone itself; or to put it otherwise, the stone is a re-agent in relation to the agent, the hammer. And it is even more evident that the mind reacts on the physical stimuli which we call the conditions of its phenomena. By speaking of such mental activity we do not commit ourselves to any extra-scientific hypothesis of an occult active spiritual principle. We mean, in good faith, simply a phenomenal activity, an activity which is a distinguishable ingredient of our conscious mental life, varying greatly at different times. In its higher form it is volitional exertion, the putting forth of mental energy in the form of resolute concentration, but activity enters into all intellection in different degrees. It shows itself in the holding of a presentation before the mind, or the narrowing of consciousness upon such a presentation, and in the steady fixation of a representation from the instant at which it begins to emerge in the dim region of sub-consciousness; and it manifests itself in a yet higher or fuller form in all relational thought. To view things as related, to bring different mental contents into relation one with another,—this is emphatically the work of the mind: it is that part of the mind's elaboration of the materials supplied by sense which most clearly shows it to be the outcome of will.

In the following paper an attempt will be made to contribute towards this rehabilitation of the volitional factor in thought by an examination into the nature of its most fundamental operation, that of Comparison. The term Comparison may be roughly defined as that act of the mind by which it concentrates attention on two mental contents in such a way as to ascertain their relation of similarity or dissimilarity. By a mental content is meant either a presentation or a representation. We may compare two presentations, a presentation with a representation, or two representations. With respect to the two relations here named, it is allowed that they are the most simple and comprehensive, and what we call comparison is plainly the relational function as employed about these.

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This definition of Comparison seems to imply that two contents may be presented to the mind and their relation of similarity or dissimilarity not apprehended. It suggests that we fix attention on the two in order to discern their relation, and this is, I think, in a sense indisputable. We often compare two impressions, say colours or timbres, without at the outset knowing how they are related as to difference and agreement;[1] and in many other cases where a likeness or unlikeness has in a measure impressed itself on the mind, we are quite unaware of the precise nature of the relation till we mentally fixate the two and perform the process of comparison.[2]

Next, we may try to distinguish comparison from passive and sub-conscious discrimination and assimilation. Sir W. Hamilton and Prof. Bain agree in saying that a mode of discrimination enters into all perception. Thus, if I look at a particular flower in my garden, I implicitly mark it off not only locally but also qualitatively from surrounding objects.[3] But such sub-conscious discrimination, in which no special relation of the flower to some one of its local concomitants is distinctly apprehended, is not the result of an act of comparison in the full sense of the term. Or take the implicit discrimination of a present from a past impression. In cognising a pear by its taste, I virtually distinguish this from other tastes, as of apples, &c. But this may mean nothing more than that I am differently affected by these tastes when they occur, and not that I now distinctly recall these tastes and represent them in their relation to the present impression. In truth, the variety and intricate network of relations here involved, as in the case of the discrimination of an object from its local surroundings, exclude the possibility of such a distinct relational act of mind.

It is much the same, *mutatis mutandis*, with respect to sub-conscious assimilation. The identification of a familiar

[1] Of course it is necessary in order to have them as two distinct presentations that we vaguely discern a difference between them.

[2] It is not necessary here to discuss the question recently dealt with by Prof. Stumpf in criticism of Lotze, whether the mind imposes relations on things or rather finds them in the things. The latter assumption seems to be the proper one for the psychologist. It is a real objection to the otherwise useful terms 'relate,' 'bring into relation,' that they seem to go beyond the psychological point of view, suggesting a particular metaphysical theory respecting the rationale of cognition.

[3] I assume here, in spite of Prof. Stumpf's recent ingenious argument, that in all perception there is apprehension of relation more or less complex and more or less distinct. The idea of apprehending any content in absolute isolation from other contents seems to me quite unintelligible.

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object, as a face or a rose, does not necessarily involve a distinct representation of past impressions. Here, again, we see that the terms of the relations implied answering to all previous like impressions are too numerous to be simultaneously apprehended. I cannot identify the face I see to-day as the same I saw at such a place last week, at another place at another time, and so on; still less apprehend such relations of the rose to all previously seen roses.

This passive and sub-conscious relating of a present to past impressions though not the same process as comparison proper is one of the most frequent preliminaries to it. Indeed here, as in the case of simultaneous presentations, the state of vague chaotic relating tends to pass into distinct orderly relating. Thus, taking assimilation first, if on tasting a wine and taking it for the instant to be claret I let my mind linger on the impression and feel a doubt as to the correctness of the assimilation, I find myself trying to call up a distinct image of claret based on previous experiences, and to make use of this as a standard with which I compare the presentation of the moment. At the same time, I very probably recall the taste of Burgundy or other wines, and consciously compare the taste with these.[1]

It is evident, then, that comparison is an act of attention or concentration of a particular sort. We fix our mind on the presentation (or representation) by an exercise of will. But it is an act of attention of a very special kind. To begin with, it differs from attention to a single presentation in its comprehensiveness. In comparing, the mind has to embrace two presentations in one glance: in other words there is a co-fixation of attention on two things as two. At the same time we are not merely apprehending them together as two simultaneously presented objects. I can look at two adjacent stars as two, as lying side by side, without comparing them in the sense of inspecting their relation of similarity or dissimilarity. In order to compare them I must fix the attention on each in a peculiar manner so that its characteristic quality (colour, degree of brightness) may exercise its maximum effect, and thus the real similarity or dissimilarity of the two become apparent.[2]

A word or two about the relations here singled out,

[1] It is to be remarked that this relating of a present impression to past and not immediately antecedent ones, whether by way of similarity or difference, is always effected by the suggestive forces of similarity.

[2] It is commonly argued, *e.g.*, by Hamilton and Lotze, that comparing and relating different contents necessitates a perfectly simultaneous attention to these, as distinguished from a rapid transition of mind from one to

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namely, Likeness and Difference. I assume that we have to do with two fundamentally distinct relations, and not merely with one. The apprehension of a similarity between two presentations is a different intellectual act from that of a difference. The existence of two perfectly distinct words —'like' or 'similar' *v.* 'different,' 'ähnlich' *v.* 'verschieden'— points to this conclusion. We are differently affected, or, as Lotze would say, are put in a different frame of mind, by the presentation of a likeness and by that of a difference. And it seems impossible to regard either as a more fundamental mode of consciousness than the other.[1]

But though likeness and difference are two distinct co-ordinate and equally positive relations, they are obviously connected one with another. We ordinarily describe them as opposite relations; but it is not at once perfectly clear in what precise manner they are opposed. Given two simple presentations, A and B, does the detection of difference always and necessarily exclude that of likeness, and *vice versâ?*

The answer to this question will depend on our conception of the nature of similarity. According to the quasi-mathematical manner of envisaging this relation by the Herbartians, the two simple fundamental relations are perfect similarity (that is, identity or equality) and inequality (Gleichheit and Ungleichheit). So long as we have to do with perfectly simple contents, say two colours, the only possible relation is either identity or non-identity (difference). And the perception of the one *ipso facto* excludes any possible detection of the other. According to this view what we ordinarily call similarity, say, that between two faces, is a case of partial identity, and the apprehension of it is a complex act—the detection of identity amid diversity.

This doctrine has recently been criticised very effectively by Prof. Stumpf.[2] He argues that the intellectual act of comparison is not a mathematical process of measurement. Similarity and not identity is the fundamental relation, and identity or equality is merely the extreme case of similarity. Moreover, in the case of simple contents, impressions of

the other. It would perhaps be more exact to say that, in fixating one of the presentations, the mind must at the same moment retain and hold fast the other *in a representative form.*

[1] Mr. Spencer's way of describing the relation of likeness as "two relations of unlikeness which neutralise one another" (*Principles of Psychology*, ii. § 373), seems to me open to criticism as seeming to deny to the perception of likeness co-ordinate rank with that of difference.

[2] *Tonpsychologie*, i. 111, ff.

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colour, tone, &c., the apprehension of similarity plays a part. Two colours, say, yellow and orange, are neither absolutely identical nor absolutely different: they may be seen to resemble one another in a certain measure.

It follows from this view that even in the case of the same simple contents both likeness and difference may present themselves together. In other words, the apprehension of likeness does not logically exclude that of difference. Thus I may view two musical qualities or timbres, say those of a violin and viola, as related both by way of likeness and difference. And this double possibility is still more apparent in the case of complex presentations. For here we have a number of distinct elements any one of which in one content may enter into a relation with a corresponding element in the other content. Thus in two voices we may note a similarity of timbre with a difference of pitch, loudness, &c.

It will be plain from the foregoing that though both likeness and difference are potentially present in the same contents, the mind cannot simultaneously grasp the two relations with equal distinctness. This is obvious enough in the case of simple contents. As long as I am thinking of two colours or two timbres as like one another, I am abstracting or turning my attention away from their difference, and conversely.[1] It is like looking at the convex and concave side of a cast, which, though conjoined, can only be perceived successively.

In the case of two complex presentations the truth of the assertion is less apparent. Do I not in comparing two faces or two hand-writings and apprehending a resemblance intuite it *in the midst of* difference? Certainly. The difference in this case is throughout indistinctly present to the mind, forming a penumbra about the central luminous circle of likeness. But the two modes of apprehension do not at any instant rise into distinct consciousness together. We specially attend now to the one, now to the other, and are distinctly aware of the difference of mental attitude or frame of mind in the two cases.

I have so far been considering what may be called intermediate cases in which both difference and likeness are potentially present. It must be added, however, that there are two extreme cases. (1) On the one hand all difference may disappear in perfect identity, as in comparing two

[1] To assert the opposite would be to return to the Herbartian position that likeness is distinctly intuited as *partial* identity.

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colours which are to us indistinguishable.[1] Even here, however, there must be either local or temporal difference in order that there may be two presentations and so an act of comparison at all. And it may be maintained that this separation of two impressions as locally or temporarily distinct is the preliminary stage in all comparison. (2) On the other hand, all likeness may become evanescent, and the two presentations stand over against one another as absolutely disparate and incapable of being assimilated. This case is realised in the attempt to assimilate two perfectly heterogeneous sensations, say, a taste and a colour, under a qualitative resemblance. But here, it is to be noticed, comparison, as ordinarily understood, fails altogether. Difference is not only preponderant and triumphant, but its triumph is fatal to the relational act itself. It is only when the two mutually repugnant elements are seen to present some common feature or aspect (*e.g.*, intensity of sensation, *Gefühlston*, &c.) that we are, strictly speaking, able to compare them, that is, view them as terms of a relation.

And here we have a new light thrown on the process of comparison. As the etymology of the word (to some extent at least) suggests, the process has in a peculiar way to do with the apprehension of likeness. While a faint consciousness of difference constitutes the starting-point in the operation, the consciousness of similarity, in the shape of a common factor, always forms the next step, and the beginning of the act of *comparison* proper. To compare is to view two things as like or unlike in some definite respect, and unless this common ground or *fundamentum* of the relational act is distinctly seized, the whole process remains indistinct and imperfect.[2]

We may sum up our results with respect to the relations of likeness and difference as follows: Every act of comparison may be said to include both an apprehension of difference and one of likeness, as subordinate moments at least. At the same time, the outlook and aim of the comparative act always has to do with one relation rather than with the other. We compare two contents in order ultimately to see how, wherein or to what extent, they resemble or differ

[1] We are not concerned here with the fact emphasised by Stumpf that considered objectively there must always be some difference, though this may fall short of our power of discrimination.

[2] It follows that all comparing of complex objects is in a sense abstracting. We only view two presentations as comparable when we more or less distinctly apprehend and pick out for separate circumscribed attention a common connecting feature.

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from one another. In some cases we distinctly make up our minds beforehand which relation we will look for; in others we rather wait to have our minds impressed by the one which proves to be the more powerful; and this double point of view may be taken up by two minds, and even by the same mind at different times, with respect to the same two contents.[1]

By help of this analysis of the act of Comparison we may move on to consider the conditions which govern the process; and here we may begin with a brief reference to the most general conditions which are applicable to all cases alike. After these have been specified, we may refer to the circumstances which favour particular forms of the comparative act—comparison with a view to difference, comparison with a view to likeness, &c.

The general conditions may be divided into *objective*, or those involved in the nature or concomitants of the presentations considered as external objects, or objects of common perception, and *subjective*, or those connected with the nature of the individual mind.

(1) *Objective Conditions.* The most important of these are reducible to three heads. *(a)* Strength or intensity of the presentations; *(b)* Presence of a distinct ground of comparison or common factor; and *(c)* Juxtaposition in time and space. A word or two on each of these may suffice.

(a) It is obvious that if we are to compare two contents, these must present themselves with a measure of force and vividness. We cannot compare the pitch of two tones if these fall below a certain degree of strength. There is a certain moderate intensity of impression which is most favourable to comparison. We detect the finest difference of brightness in the median region of the scale of luminosity.[2] The difficulty of comparing representations as contrasted with presentations illustrates the same truth, for our images are as a rule too faint for clear, steady comparison.

(b) As remarked above, all comparison presupposes a *fundamentum*, a common aspect. And the difficulty of comparison varies inversely with the distinctness and promi-

[1] From this it appears that comparison stands in the most intimate connexion with judgment, or decision respecting the relation of two things: comparison is the process, judgment the result. And, since we only know that a process is well performed when the result is good, it will be necessary in estimating the conditions of comparison to treat it as practically synonymous with reaching a judgment.

[2] The same thing is known to hold good of the median region of tones.

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nence of this element. Thus, to take an obvious instance, we cannot compare two tones in respect of pitch if this is unsteady and variable from moment to moment, or two colours if they are not pure. Again, speaking generally, it is more difficult to compare two colours with reference to degree of saturation than with reference to their hue: the element of depth or saturation is less obvious than that of hue. In comparing any two complex contents there is a further difficulty due to the preliminary analysis, the discrimination and selection of the ground of comparison,[1] and the difficulty varies inversely with the prominence of this element. By prominence, is here meant its conspicuousness relatively to the number and strength of the other elements. Thus it is difficult to compare two faces in respect of some quite special feature, say, an expressional movement. Again, the more abstract the point selected the more difficult the comparison. Thus it requires a considerable effort to compare two faces with respect to some element of proportion. The comparison of impressions with reference to the more subtle emotional effects which enter into art-criticism is a matter of special difficulty for the same reason. To compare two pictures in point of 'tone,' or two literary styles in point of purity or dignity, involves a serious effort of abstraction.

(c) The presentations must be capable of being brought before the mind in the way most favourable to comparison. With respect to temporal conditions, it might at first be supposed that the simultaneous presentation of two impressions is preferable to the successive presentation. But though the simultaneous presentation, say, of two tones, brings certain advantages with it, it has disadvantages as well. Thus Fechner found that two weights lifted by the right and the left arm were compared better in succession than contemporaneously. And where, as in the case of tastes, simultaneous impressions are apt to coalesce, sequence is obviously preferable. With respect to impressions presented in space, a certain local contiguity is necessary. Two colours or forms can only be well compared when they are brought near one another. The finest discrimination of hues shows itself with respect to those laid side by side, and at their common boundary, and the same holds good of form-elements, as the direction or length of two lines.

[1] Strictly speaking the so-called simple contents offer a certain choice of relational aspect. Thus two tones may be compared in respect either of pitch, loudness or timbre.

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(2) *Subjective Conditions.* *(a)* Since comparison is a mode of intellectual activity involving voluntary attention and concentration of mind, it obviously presupposes the conditions necessary to such concentration. Thus it implies a well-practised faculty of mental concentration, a power of turning the attention resolutely away from what is irrelevant to the matter in hand. Since, moreover, comparison is a special mode of concentration, *viz.*, a viewing of two things under some relation, it depends on previous practice in this particular line of activity. It has been found that the power of discriminating sensations improves rapidly up to a certain point by practice. Further, the comparison of two contents obviously presupposes a favourable state of mind at the time, a vigorous condition of brain, and the absence of excitement or preoccupation.

(b) In the second place, the act of comparison varies with the pre-existing attitude of mind with respect to the contents selected and the ground of comparison. In the case of simple sensuous contents, that is to say, sensations, much will obviously depend on the individual's special degree of sensibility in relation to the class of impressions. A good discriminative eye for colour, and a vivid interest in colours (which may be supposed in general to accompany this) are clearly a condition of a nice comparison of colours. In the case of complex presentations our facility in comparing will vary directly with our special familiarity with and interest in the ground of comparison, and inversely as the attractive force of the other elements. This is seen in the case of contents so simple as tones. Stumpf has found that the readiness of musicians in comparing tones in respect of pitch was seriously interfered with by the tendency to attend to their melodic relation. Another illustration is the difficulty of comparing the complexion or form of the faces of two intimate friends. Here the mass of individualising isolating suggestions is too interesting to allow of an easy abstract attention to colour or form. The difficulty of a far-reaching abstract mode of comparison increases with a practical detailed acquaintance with concrete things, which tends to divide them by a compact mass of heterogeneous association.

(c) A word must be added on the effect of mental preparation or preadjustment of mental vision. It is evident that when we are definitely on the look-out for a certain kind of similarity or difference, the act of comparison will be facilitated. In this case we are saved the labour of analysis and of selecting the ground of comparison. Thus if I am asked

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to compare two flowers with respect to depth of colour or delicacy of texture, the whole process is shortened by the preliminary act of adjustment.

It is another question, however, whether a distinct anticipation of a particular difference or a particular similarity favours the detection of this. Does it follow that because I expect to find a likeness I am more likely to apprehend it? Certainly not. At first sight, indeed, the rule would rather seem to be the other way. To give an instance, two persons visited the United States, one expecting to see the people very like the English in ideas, sentiments, manners, &c., the other expecting to find them unlike. The first was struck by the contrast, the second by the degree of similarity. The explanation of such familiar facts is very simple. It is the unexpected that strikes us. When therefore we are on the look-out for difference, any point of likeness which presents itself gains in force relatively to points of difference by reason of its unexpectedness. And this principle serves to counteract and often to disguise the effect of the tendency to see what we come prepared to see.

These seem to be the main subjective circumstances which serve to determine the rapidity and accuracy of the comparative act. It is only necessary to add that, whenever the comparison is between a presentation and a representation or between two representations, an important subjective factor is the individual power of reproductive imagination. In judging of the pitch of a note, of the weight of a letter, of the genuineness of a picture, and so forth, all depends on the reproduction of the past impression which serves here as the standard of comparison.

We may now pass to the particular varieties of the comparative act and their special conditions.

The process of Comparison may be said to assume one of two broadly contrasted forms according as the mind is or is not specially bent on detecting one particular relation. Where we view two objects with the distinct purpose of noting a similarity, or relating them by way of similarity, the process may be called Determinate Comparison. Similarly with the case of looking out for a difference. When, however, the mind compares objects indifferently without special reference either to likeness or to difference, the process may be styled Indeterminate Comparison.

Of these two modes of comparison we may best begin with Determinate Comparison, and first in its discriminative form.

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Determinate Comparison: i. *Discriminative.*

The detection of differences is in general facilitated by certain circumstances, to which reference may at once be made; these special conditions being, again, divisible into *objective* and *subjective*.

(1) It is evident that the apprehension of difference will be aided by everything in the presentation which adds to the force or impressiveness of the difference presented. Thus a great difference, a strong contrast, is detected much more readily than a fine shade of difference. Besides the degree or depth of difference, we have, in the case of complex presentations, a second circumstance, namely, the extent, that is to say the number of points of difference which manifest themselves. We more readily pronounce two faces, two tunes, two pictorial styles different when they show a number of unlikenesses. It may not be superfluous to add here that, since in viewing two objects there is always a rivalry between the points of similarity and dissimilarity presented (somewhat analogous to the optical phenomenon known as the rivalry of the fields of vision), the effectual force of any given amount of difference will depend on the ratio of this difference, estimated as a product of intensity and extent, to that of likeness. Where this is small, the detection of difference is difficult and slow, and this difficulty increases rapidly when the ratio falls below a certain fraction; as in the familiar case of an unpractised observer with very similar individual objects as sheep.[1]

(2) Coming now to subjective conditions, we have first to ask whether, in each individual, there is a special strength of discriminative power in general, independent of that of the individual's assimilative power. Such an endowment, if shown to exist, would clearly constitute the most important subjective factor in the apprehension of differences. It seems to me, however, that we cannot safely assume this to be the case. Given, it may be argued, at the outset a good power of comparing, then difference ought, *a priori*, to be just as susceptible of apprehension as similarity and not more so. To this *a priori* argument there may, no doubt, be opposed the *a posteriori* one that observation proves well-marked inequalities in individuals in this respect, some minds being throughout, that is in relation to all varieties of presentation, more readily detective of differences than others. I believe this to be a fact. It may, however, possibly be accounted for by

[1] This fact of rivalry, though needing to be just referred to here, will be illustrated more fully in the case of Indeterminate Comparison.

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saying that to certain individuals difference is more interesting than similarity. As has been observed, the two relations affect us quite differently, and it is not improbable that some minds are more sensitive to one of these effects than to the other. And such a superiority of interest, by fixing the attention in this particular direction, would, it is evident, serve to beget a special readiness in detecting differences. The greater the amount of practice in noting dissimilarities, the better the "faculty of discrimination". We may thus provisionally speak of a "special disposition" to note difference, leaving open the question whether this implies a high degree of native discriminative power in general.

The case is much clearer when we consider the discriminative function exercised on any special class of impressions. It is a matter of everyday observation and has been confirmed by scientific research that individuals vary greatly in their "discriminative sensibility" to colour, pitch, &c. These inequalities, measured by the minimum difference appreciated, are due to a considerable extent to special physiological conditions in the sense-organ concerned. Even here, however, practice plays a considerable part. By an habitual concentration of mind on colours or tastes, the power of discriminating them may be greatly improved.

Another question needing to be touched on here is whether a fine discriminative sensibility (as measured by smallest possible difference) implies a uniform intensification of the degree of difference for all intervals in the scale of sensations. Thus, does a given chromatic distance, say, between a yellowish and a bluish green, stand for a more powerful stimulus to the discriminative faculty of one having a fairly discriminative eye than of one near the confines of colour-blindness? It seems reasonable to suppose that this is so.[1]

With this general account of the circumstances favourable to discriminative comparison, we may proceed to consider the more important varieties of the problem, and in distinguishing between these we may best of all, perhaps, conceive of the act of discriminative comparison as called forth in response to particular questions.

Prob. I. The first and most obvious form of such question is this: *Are these two simple qualities, colours, tones, &c., different from one another?* or, *Are these two lights or*

[1] This does not imply that in appreciating any amount of difference the mind travels over all the intermediate gradations or distinctly represents the minimum difference (see Stumpf, *Tonpsychologie*, i. 126, ff.).

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sounds unequal in intensity? This form of inquiry, as all are aware, has been followed out methodically in order to ascertain the average limits of discriminative sensibility with respect to intensity and quality of sensation. Its application to the measurement of individual differences has not yet been carried out on a large scale.

The individual discriminative ability as thus tested in any particular region of sensation, may be regarded as compounded of two main factors: (*a*) structural peculiarities of the organ favouring distinguishableness of impressions; and (*b*) special comparative power, the result of practice, both generally and more particularly in the special domain of impressions concerned, &c. The separation of these factors in any given individual would be a difficult matter at best, and could only be attempted after a systematic examination of the discriminative power in all regions of sensation.[1]

Prob. II. A somewhat different problem faces us in the question: *In what way do these two single contents or elements differ from one another?* This question can be asked with regard to sensuous qualities in so far as they form a series or scale. Thus we may be asked, "Which of two notes of similar pitch is the higher?" "Which of two colours is the warmer or the more saturated?" "Which of two oblique lines is nearer the vertical?" and so forth; and it is evident that in respect of intensity and quantity generally the question can always be asked of two magnitudes "Which is the greater?" A great deal of everyday comparison is concerned with solving this kind of problem: *e.g.*, "Which of these voices is the sweeter?" "Which of this author's works is the more original."[2]

At first it might be supposed that this second question is virtually answered when the first is answered. But this is not so. It is one thing to distinguish two colours, another to define their difference by reference to a scale. Stumpf found that the subjects with whom he experimented could in certain cases distinguish two tones as to pitch, without at the same instant being able to say which was the higher. This last decision involves a further stage of the comparative act, and one requiring an appreciable interval of time.

[1] The complexity of the problem is well brought out by Prof. Stumpf, *Tonpsychologie*, i., §§ 2, 3, and 15.

[2] It is evident that this form of question can always be put when there is a series of elements, whether qualities or intensities, consisting of at least three terms. Hence it applies to colours, tones and elements of form. On the other hand, if all tastes are resolvable into antithetic pairs we cannot have a qualitative series of tastes.

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To recognise one note as higher than another, or one colour as warmer than another, is plainly to classify a difference, or more correctly to identify the mode or direction of their dissimilarity; and facility in accomplishing this depends, not on discriminative but on assimilative ability, and on previous familiarity with the particular relation (high and low, warm and cold), and so with the scale as a scale, or as Stumpf calls it a *Steigerung*.

In the first two Problems we have had to do with simple contents. We now pass to others which have to do with complex presentations. Here, as might be expected, there is more complexity, more range for the movements of attention; and, in general, the process is more lengthy.[1]

Prob. III. Of such problems the first is the following: *Are these two complexes different in any respect?* This question would, it is obvious, be asked with respect to individual objects very similar to one another, *e.g.*, two sheep, two flowers, an original painting and a copy. Here the distinct separation of the point (or points) of difference is not necessary. All that is needed is a vague apprehension of some dissimilarity, though we are not yet in the position to distinctly localise this.

Here rapidity of the discriminative act will plainly depend largely on special interest in difference as opposed to likeness. The preponderating points of similarity tend in this case to thrust themselves on the attention, and to keep the faint and inconspicuous point of difference out of sight. We note, too, in this case the effect of special familiarity with and interest in the particular point of difference presented, leading to a keenness of mental vision in relation to it. Instance the shepherd's discrimination of two sheep, or the art-connoisseur's discrimination of the clever copy from the original. It is to be added that slight differences come in a manner to be increased by experience and association which invests them with a special significance. The small points that differentiate one horse from another in the eyes of the connoisseur are specially interesting and impressive to him because pregnant with practical meaning.

Prob. IV. The remaining problem is supplementary to the last (as Prob. II. was to Prob. I.): *In what particular (or particulars) do these two complex contents differ from one*

[1] Of course even in the case of complex presentations the problem may be a narrow and circumscribed one, as when we are asked to decide whether two faces differ in complexion. But this case differs so slightly from Prob. I. that it does not need to be specially considered.

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another? Here we have to define a difference already known to be present by assigning to it its exact seat. And this is, in many cases at least, a very material addition to the task of discriminating. We are often vaguely aware of a difference, *e.g.*, between two voices, handwritings, artistic styles, without being able to put our mental finger, so to speak, on the precise point (or points). This involves a careful review of the various constituents which offer possible grounds of comparison, and a selection of the one in respect of which the difference discloses itself. Here the chief conditions are skill and readiness in analysis, and previous practice in making the particular element a matter of separate consideration. The trained critic easily tells you where the difference between one artistic style and another lies, because his mind has been exercised in analysing styles, and separately considering their constituent factors.

We may now pass to a consideration of the other direction of the process of comparison, namely, the detection of resemblance among presentations.

Determinate Comparison: ii. *Assimilative.*

Here, again, it is evident that the process will in general be furthered by certain *objective* and *subjective* conditions. With respect to the former, it may be observed, as in the case of detecting difference, that the greater the degree of similarity between two contents, the more likely are we to note it. If two closely related hues, forming contiguous elements of the spectrum, are simultaneously presented to the eye, say in a costume, they are at once regarded as similar to one another, provided there is no special reason at the moment to consider them as differing; and again, in the case of complex presentations, the number of points of similarity, or the area over which it extends, will help to determine its force, just as in the case of difference. Two faces, two melodies, two stories in which there is a number of palpable similarities, are much more likely to be assimilated than two in which there is a much more limited extent of resemblance. Finally, in this case, too, we have to consider as a negative condition the absence of striking differences. As every teacher knows, the first tentatives in abstract assimilation require a toning down and repression of difference. A young child would find it hard to compare two flowers as to their common features if examples widely unlike as to size, shape and colour were the first selected.

With respect to subjective conditions, it is merely necessary to add that the detection of similarity is aided by

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a strong interest in this relation compared with that of difference. Minds that take a keen pleasure in assimilating things, faces, natural scenes, voices, and so on, and are relatively wanting in the feeling for difference and contrast, will in general note points of similarity more readily, that is under less favourable objective conditions, than others.

We will now take up some special problems, as in the case of discriminative comparison.

Prob. I.: *Do these two simple contents resemble one another?* At first sight, such a question may seem unnecessary, but a little consideration will show how it may arise. Thus a person may be asked whether he regards, or can regard, two colours at a certain distance from one another in the chromatic circle, say, vermilion and yellow, as like one another. The same question might be put with respect to tastes, odours, timbres, &c. The object of this inquiry would be to determine the limit of the individual's assimilative grasp.

It appears to me that the main circumstance specially affecting this problem is the extent to which past experience has induced a habit of separating the two impressions or qualities as unlike. This may range from zero up to a high figure. A savage or a child who had not distinguished blue and violet or orange and yellow would, it is obvious, necessarily view them as like one another. The more finely the several gradations of colour had been discriminated, the greater the difficulty of assimilating the terms in the series. Thus a painter or a colour-manufacturer would have more resistance to overcome than an ordinary person in regarding, say, violet and blue or violet and purple as similar qualities; while the painter's experience, by familiarising him with the different effects of the individual colours, would tend to make such assimilation still more difficult.

One other consideration bearing on this case may be just touched on. All such assimilation of the terms of a series may be said to imply a vague reference to the whole extent of the series. Yellow and orange are only seen to resemble one another when they are assigned their place in the chromatic scale, and when consequently their common unlikeness to more distant members of the series, say the blues, is dimly discerned. Hence everything which tends to contract the scale by striking out the more distant regions, would serve to increase the difficulty of such assimilations. Thus a man who was specially occupied with a restricted class of tastes, say, those of wines, would, it may be presumed, find it harder than an ordinary person to assimilate unlike vinous flavours, as his habitual range of

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reference would be so narrow a one. It would be interesting to know whether the colour-blind find it more difficult to assimilate colours which are unlike to their own as well as to normal eyes, than others find it. And it is a curious question whether an enlargement of the series of colour-sensations would tend to throw our present colours closer together.

Prob. II.: *Are these two complexes alike in any respect?* This is a very familiar type of inquiry. We are asked whether we find two persons' voices, faces, or so forth, like one another. In all such cases a strong interest in likenesses generally needs to be supplemented by a special interest in the particular aspects in which likeness here happens to show itself. We much more readily detect a similarity between two faces when we feel a lively interest in all the structural details and dramatic play of feature which make up their possible grounds of similarity.

Here, again, we note a singular illustration of the deadening effect of familiarity on our power of assimilation. We can all at once discern the common type in the individuals of a family whose acquaintance we are just making. But how hard it is for us to detect the common elements of form and expression in members of our own family! In this case, too, we note that the effect of daily contact is to bring individual differences more and more into the foreground. Each brother's or sister's face is for us differentiated, individualised by innumerable associations. These tend more and more by their superior interest to overpower the common typical feature till it becomes exceedingly difficult, if not quite impossible, for us to see it at all.

The same fact is observable with respect to other complexes. The points of similarity between Bach and Handel, Beethoven and Schubert, are much more likely to arrest the attention of the young musical student comparatively strange to their works than the more advanced musician. Deeper knowledge serves to differentiate the composers' styles by a wider and wider interval. The points of similarity now seem superficial and insignificant, if recognised at all.[1]

Finally, it may be just added that in this case, as in that of relatively simple contents, the readiness in detecting similarity is affected by the individual's range of impression or experience, constituting that standard of reference to

[1] Of course a profounder study will often disclose more subtle affinities: but on the whole fuller detailed knowledge seems to tend towards discrimination and separation.

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which in every case there is a more or less distinct appeal. Thus, to give an obvious illustration, the points of similarity making up the typical English face are much more readily appreciated by one who has recently been travelling and observing widely dissimilar types.

Prob. III.: *In what respects do these two complexes resemble one another?* Here as before, in the case of discrimination, it is facility in the analysis and separate consideration of the elements which is the chief condition of success. To learn to fix the attention on particular features and aspects of things is, as we all know, a matter of time. Children learn to class things together because of certain resemblances long before they make the precise grounds of their classification perfectly distinct to themselves.

Next to this general aptitude in analysis comes a special familiarity with the basis or bases of similarity in any particular case. A practised literary critic could more easily than another determine or define the precise points of similarity (as he would those of difference) between two writers' styles, just because he had gained a special degree of familiarity with the several constituents of style.

By the two groups of problems just described we might measure an individual's power of discrimination and of assimilation for any particular class of impressions as well as his average capability in each of these great intellectual acts; but it has already been implied that the two acts, though fundamentally distinct, are not independent of one another. A person's readiness in detecting and localising a point of difference will be prejudicially affected by a lively feeling for the affinities of things; and it is a matter of common psychological observation that quick assimilation presupposes a measure of indifference to the diversities of objects. While, therefore, it is important to test each of these intellectual powers distinctly and apart, it is necessary as a supplementary process to estimate them in their relation to one another. In the case of any given individual, we may ask which of the tendencies is the stronger, the discovery of likeness or of unlikeness. And this line of investigation naturally assumes the form of an experimental inquiry into the nature and conditions of the mental process already described as that of

Indeterminate Comparison.

Here the presentations or objects to be compared exhibit both relations, difference and likeness. Thus, in the case of simple qualities, as colours, they must be supposed to

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lie between the extremes, the minimum of difference perceptible and the maximum range of the assimilative energy. The special gist of the problem has to do with the relative force, impressiveness or perceptual momentum of these relations. And here it is evident that we are face to face with a problem of greater complexity than those hitherto considered. This is a problem of compound comparison, that is to say a comparison not of two simple contents, but of two relations between contents which have themselves been apprehended by previous processes of comparison. The mind is here concerned with deciding whether likeness or difference preponderates.

Now at first sight it might seem absurd to talk of measuring an amount of likeness against an amount of difference. Are these not heterogeneous and therefore incommensurable magnitudes, like the length of a line and the strength of a cup of tea? Yet it seems to me indisputable that we are often able to say that the difference between two contents exceeds the likeness, or *vice versâ*. This is true even of simple contents. All persons, I imagine, endowed with a normal, fully-developed colour-sense, would say that the resemblance between two adjacent hues, say peacock and ultramarine blue, was greater than the difference. What should we mean by this? It seems to me that in this case, too, there is a vague reference to a customary range of experience as a standard. We mean that the similarity between these two clearly allied hues is great and impressive relatively to the whole possible scale of degree of likeness among colours, and that contrariwise the difference is slight and almost evanescent relatively to the possible scale of differences. In other words, the resemblance here is far away from the minimum or faintest appreciable degree of chromatic affinity, whereas the difference is not far removed from the minimum perceptible. We may not be distinctly conscious of all this when we say that the similarity is greater, but a vague consciousness of it seems to be implied in the fact of the superior impressiveness and emotional effect of the similarity.

If this is the explanation of the preference in the case of simple presentations, the selection in the case of complex ones occasions no further difficulty. Here we have to do with a number of similarities and differences, and are called on to compare two sums of psychical effect, namely, the several impressions of likeness and difference of various degrees of force.

After this brief analysis of the nature of our compound

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act in general, we may easily assign the more important conditions, *objective* and *subjective*, which determine the direction of preference in this unfettered mode of comparison.

(1) The most obvious objective condition serving to determine the mind of the subject to view any two given contents under one of the two great relations rather than under its opposite is its preponderance in the objects themselves. The superiority, in point of intensity as just defined and of extent, of likeness to unlikeness in two objects, as faces, is the most important objective circumstance which operates in the direction of assimilation rather than of discrimination; and the greater this preponderance, the more powerful and irresistible will this influence be.

A second objective circumstance, much less obvious than the preceding, which helps to determine the direction of this selective comparison is the degree of proximity of the objects compared in time and space. We often catch ourselves imagining two faces or two voices strikingly alike until they happen to present themselves simultaneously to our minds. Since things remind us of one another by their likeness but never by their difference, it is to be expected that, in comparing a present with an absent object (or two absent ones), we should in general tend to over-estimate likeness and under-estimate difference. Juxtaposition, though it may serve to disclose unobtrusive likenesses, tends on the whole greatly to favour the discrimination of objects.[1]

As a third objective condition we may refer to the action of the surroundings of the objects compared. The proximity of a brilliant patch of carmine to two greens in juxtaposition would greatly favour our viewing these as alike. In other words they would virtually be approximated. The presence of a stranger of a strongly opposed type may help greatly in the assimilation of members of a family. On the other hand, two similar presentations may be virtually rendered more unlike by the proximity of a third object presenting a more striking amount of likeness to one of them. A slight superficial resemblance between two voices often disappears over against a deeper affinity.[2]

(2) Coming now to subjective conditions, we may at once

[1] The phenomena of simultaneous colour-contrast (if explicable as a modification of judgment and not as the result of physiological circumstances) would illustrate the same tendency in a very striking manner.

[2] It is evident that by the surroundings of an object is here meant not merely locally adjacent ones, but all objects or circumstances contiguous in time, whether presented contemporaneously or in immediate antecedence.

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infer from what was said above that the viewing of two objects as like rather than the opposite, or *vice versâ*, will depend on a number of individual or subjective circumstances which may be summed up as the relative disposition or habitual attitude of mind with reference to these opposites. Special familiarity with and interest in some detail of likeness, absence of expectation that this will present itself in the present instance, and finally the habitual preference for likeness over unlikeness as an object of apprehension, —these will all tend in the direction of assimilation rather than of discrimination. Similar individual conditions help to favour the preference for difference.

We have only space for a bare indication of the different problems falling under this head. They are logically divisible into two main divisions, according as we are dealing with simple or with complex contents. Each of these, again, may be subdivided into two branches according as we are seeking the subject's first impression or his final and deliberate decision. This subdivision, however, only becomes important in the case of the second division, that which has to do with complex contents. Hence, the problems (as already in our treatment of Assimilative Comparison) practically reduce themselves to three.

Prob. I.: *Are these simple qualities more like or unlike?* The special conditions operating here are manifest. They are, first, the actual objective degree of proximity of the presentations in their appropriate scale; secondly, the individual subject's special range of experience and habits of mind with reference to the particular order of impressions dealt with.[1]

Prob. II.: *What is your first impression with respect to those two complex contents—are they rather like or unlike?* Here the objective condition is relative number and strength of the points of similarity and difference; the subjective, relative degree of susceptibility to the several constituent factors.

Prob. III.: *After carefully examining these two complex contents, which seems to you to preponderate—likeness or unlikeness?* Here is presupposed a careful survey of the different aspects or ingredients of the two objects. The importance of the fuller process is that it tends to eliminate or at least greatly reduce the effect of accidental subjective influences, such as that of expectation which would give an undue impressiveness at the outset to certain features.

[1] This form of question may be expected to yield very different results at different parts of the scale. It would be curious to estimate the limits within which confident answers are given, and the margin of uncertainty.

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The foregoing are, I conceive, the more important lines of inquiry which would need to be followed out in investigating the faculty of Comparison and its various manifestations in different individuals. If space permitted, other and interesting problems of comparison might have been discussed. More particularly it would have been desirable to dwell on that familiar and important form of comparison in which certain differences are compared with other differences, certain likenesses with other likenesses in point of degree. In the course of this paper we have found again and again how what at first seems a mere discovery of likeness or difference involves a sub-conscious comparison and measurement of degree. In truth, the problem of ascertaining a bare resemblance or difference continually tends to become a question of estimating its degree in relation to some customary standard.[1] This factor of measurement assumed greater distinctness in the case of what I have called Indeterminate Comparison. In certain cases, however, the mind may be called on to distinctly think of, and to measure one with another, two degrees of difference or of similarity. Thus, we may be asked whether the contrast between one pair of colours is greater than that between another, or whether the likeness between one face and another is greater than that between the first face and a third. Prof. Stumpf has clearly indicated the nature of this interesting line of investigation in what he calls Comparisons of Distance (Distanz-Vergleichungen).[2]

I am well aware that the several lines of research indicated in this paper have only been opened up in a provisional manner. They need to be followed out farther with something like scientific exactness. Here, I can but express my conviction that the fruitful modern method of estimating the complexity of mental processes by an exact measurement of their duration might with great advantage be extended to acts of Comparison. It would, for example, be a matter of great interest to measure (in a variety of cases) the interval between the first faint detection of a likeness (or an unlikeness) and the final definition of its *locus* or seat.

[1] See especially what was said respecting the limits of the apprehension of likeness between simple contents.

[2] *Tonpsychologie*, i. § 7. As Prof. Stumpf points out, the idea of distance may be taken as referring either to the decreasing similarity or the increasing difference. And so we may say that the comparison of distances is at once a measurement of likeness and of difference.

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II.—SPACE AND TOUCH, III.[1]

By Dr. EDMUND MONTGOMERY.

VII.

WE have ascertained that motor sensations, whether centrally initiating muscular function or peripherally stimulated by such, do not enter as constituent elements into our original space-perception. It is true, when I move my hand through a non-resistant medium, I feel it continuously changing its position in space. But this recognition of successive positions is due to an immediately felt localisation of the sensorial impressions emanating from my hand, not to any motor sensations accompanying muscular contraction. This is clearly proved by the fact that each spatial position my hand may happen to occupy when at rest, is immediately felt as distinctly localised in relation to my apperceptive focus, without the least reference to motion. Feelings of motion, however constituted, are always realised as successive, and this whether now actually experienced or afterwards remembered. To derive from a succession of past feelings a co-existence of feelings now present amounts to nothing less than a creation *ex nihilo*. Not only have past feelings, as facts of consciousness, for ever vanished out of existence; but moreover the peculiar new formation Space differs as much from Time, its alleged source, as any two conscious phenomena are ever found to differ from each other in this world of ours. Besides, as with a little ingenuity of arrangement one and the same objective space may be traced by movements of almost any part of our body, it is a delusion to think that anything specific in feelings accompanying different kinds and amounts of muscular contraction could possibly help to constitute space.

Yet though all this is undeniably so, is it not, after all, the very movement of your hand that makes you feel its different spatial positions and that actually traces objective space? Who can deny that, however clearly localised sensations may immediately seem to be, their successive shiftings, together with the results of previous shiftings, which make up their present position, and consequently the whole constitution of space as subjectively and also as

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objectively realised, must in some manner be dependent on muscular motion? Is it not muscular motion that places our bodily members in those very postures whose surface-points are subjectively felt as the definite configuration of positions constituting our conscious space at the time being—a space rendered objective merely by the further qualitative stimulation of the same sensory points?

Here we have evidently come upon a fundamental dilemma of science, a dilemma at least as baffling to conceptual logic or psychological method and as inherent to the theory of knowledge as any antinomy of pure reason. The seemingly irreconcilable antithetical aspects here disclosed arise so near the root of our being as apparently to render dual all its most obvious manifestations. No psychology can consistently account for the real part which bodily occurrences play in mental presentation. Physiology stands powerless before the genesis of the most elementary mental phenomenon. And monistic theories have as yet failed to identify mind and body. Only clear psychophysical insight can help us over the difficulty.

We may declare with as much right that muscular function underlies all our space-perception, as we have previously declared that muscular function does not enter as a constituent into our space-perception.

The solution of this radical perplexity of science is easy enough when once we have come to recognise the true relation of our being to its physical as well as to its psychical aspect. Generalised, it signifies nothing more nor less than that all our conscious realisations are dependent on what an observer perceives as our bodily organism; that, in fact, the vital functions of this organism as a thing-in-itself are our veritable medium of realisation. It has been shown that what we call our nerve-system is in reality the percept of an observer. Now it is evident that what we call our muscular system is in reality likewise the percept of an observer. When with closed eyes I move my arm through a non-resistant medium, I myself have immediately certain subjective sensations, revealing the spatial positions occupied by the part of my body in motion, together with certain qualitative characteristics, which make known to me that it is my right arm which is thus shifting from place to place; but not revealing to me—what however an observer may realise in his perception—that this arm consists objectively of skin, muscles, bones, &c., and that it is the contraction of the muscles which places the arm in positions corresponding exactly to those I myself subjectively feel.

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In a former section we have come to the conclusion that what is perceived as the objective or physical aspect of an organic function precedes the sensation subjectively felt in connexion with it. We may therefore legitimately infer that the muscular contraction objectively perceived as connected with the subjective feelings of shifting positions precedes them, and that, consequently, the veritable organic process corresponding extra-mentally to the perception of the observer and taking place in the observed person is, as a constant antecedent, causatively connected with that person's immediate feelings.

It has been proved that no immediate sensation of muscular contraction ever enters into our space-consciousness. Therefore, the muscular functions, always representable in the perception of an observer in connexion with the immediate feeling of shifting positions experienced by the observed subject, though constituting an organic condition and thus a veritable cause of this subjective feeling, remain nevertheless unconscious to the subject thus realising their mental influence. This subjective unconsciousness of the organic conditions of experienced feelings is indeed the rule and not the exception in mental realisation. We do not subjectively feel our retina, and yet no scientific thinker will contend that its objective existence is unessential to sight. In a similar way we do not feel our muscles during space-realisation, yet they form the most essential organic condition of our entire space-consciousness. Our space-perception is truly sensori-motor, but the sensory process alone becomes sentient within us; the motor process remains unfelt. Sensory processes as objectively perceivable in the sensory tract become subjectively conscious within central regions, while motor processes perceivable in the motor tract remain subjectively unconscious even within central regions. Yet the motor centres are for all that the veritable matrix of space-realisation.

To understand the wonderful and momentous part which motor centres play in our space-perception, we have only to realise that with one and the same sensory organ, the tip of a finger for instance, any accessible part of space can be felt, and that this feeling of one's finger everywhere in turns is accomplished by no other change in the participating factors save that which objectively discloses itself as a motor function. If I realise the tip of my finger as localised in a certain part of space, and then, by means of a vital function remaining as such unconscious to me, I realise the same sensory point at quite another part of space, it is

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obvious that the unconscious function must have changed the matrix in which spatial positions are realised.

Holding my finger with closed eyes in a certain position, I have now only the subjective feeling of a definitely localised and qualitatively characterised sensation. The quality of the sensation remaining the same, I feel the finger afterwards in an entirely different part of space. In my present subjective attitude I know nothing of the physiological object named finger, nothing of its skin or muscles. I may not even have executed what is called a volitional act. Some other person may have placed the physiological object unrealised by me in its changed position, and I may have been so intensely occupied with something else at the moment, that I did not notice the change when made. But as soon as the influences emanating from the sensory surface awaken sensorial realisations in my apperceptive focus, I feel immediately its changed position. From physiological as well as pathological facts we have found reasons to infer that the subjective realisation of position is due to specific energies inherent in nerve-centres. Now, if the very same sensory point awakens the localising specific energy of such nerve-centres in a manner to elicit from it at one time one definite spatial localisation and at another time quite a different one, it is clear that, between these two different space-percepts, the constitution of the position-giving matrix and with it its localising specific energy must have undergone a change. On examination it then becomes objectively certain that this change must have been produced by muscular function, no other modification of the existing conditions having preceded the difference in the subjective feeling, and such difference of subjective feeling being found at all times accurately to correspond to the different combinations of muscular function determining the objective position of the felt organ.

I hold then that our entire muscular system possesses a common centre which is the sensitive matrix in which impressions are felt as definitely localised sensations; that, in fact, this motor centre is the perceptual representative of our potential space, whose energising through specific channels gives rise to the feeling of determinate positions. Generally, during our waking-time at least, we have a more or less distinct subjective feeling of the entire surface of our body, which feeling becomes in various degrees intensified and also objectively qualified by stimulation through external contact.

The substance of this motor centre extends in unbroken

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continuity into nerve-fibres, and through them as their active substance eventually into all the ectodermic muscles of our body, forming together with these its appendages one single physiological unit of subordinately organised protoplasm. Every change in the posture of any part of our body involves a corresponding change in the state of our muscular system, followed by a responsive change in the continuous and concentrated substance of the motor centre. To the highly specific vital action forming and maintaining the molecular consistency of this motor centre, is due its peculiar power of spatial localisation. Every change in this vital activity and therewith in the molecular consistency of the motor centre carries with it a corresponding change in its localising energy. Through phylogenetic adaptation and elaboration, any objective change in the posture of our members effects in the motor centre a molecular rearrangement whose specific energy awakened on stimulation is subjectively felt as a configuration of positions congruous with the objective state.

To realise the astounding susceptibility of a living substance to the least alteration in its conditions of existence, one need only attentively watch living muscles, whose striated structure renders visible their molecular sensitiveness to the slightest variation in the surrounding medium. The definite mutability of the molecular structure of muscular substance has led me to look upon it as a possible physiological reagent, by which the presence of different stimuli and their peculiar effect on living protoplasm might be recognised. Now, when even the inferior protoplasm of the outlying muscles is thus subtly and definitely responsive to random variations in the external medium, how much more subtly sensitive and definitely responsive must the higher protoplasm of the centralising organ be to the internal stimulation emanating from the perfectly organised function of the muscles themselves!

Whoever wishes to gain an intelligent idea of vital activity has to consider the histological forms of which organs are built up, not as constituting solidly shaped parts like those of a machine, but as mere boundaries filled by a specific molecular vitality ceaselessly busy in maintaining efficient against outside encroachment a functionally wavering but otherwise most steadfast equilibrium of molecular constitution. This equilibrium, vitally upheld wherever life has full sway, constitutes physiologically an indiscerptible unity. In our special instance it makes up *objectively* the integrity of the central organ of muscular disposition, responding faith-

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fully to all the variable influences affecting it from the ever-changing condition of its integrant dependencies; *subjectively* it evinces itself as an inexhaustible constellation of corresponding positions within one and the same continuous space.

From objective data furnished by anatomical and physiological study, we shall now endeavour to form some definite idea as to the site and nature of the organic activity underlying the subjective determination and shifting of immediately felt positions. We must, however, never forget that this examination of the physical aspect, having for its object only the perception of organs and their function as excited in the mind of an outsider, can merely indirectly and representatively reflect the extra-mental constitution and activity of the veritable existent under observation; or, in other words, the consistency and vital operations of the powers stimulating the observer can be only symbolically inferred from their stimulated effects in the observer's mind. We do not immediately or subjectively realise the biological aspect of our organism. In order to recognise a permanently resistant body with sensory and motor organs, we have to allow these extra-mental existents to stimulate a variety of specific sensations. The percepts thus awakened inform us of the existence and action of our organic and vital individuality,—an aspect of our being not revealed to us through immediate feelings but, though specially our own, forming part of the objective world which makes its presence known to us by definite sensorial effects. When therefore I maintain that a certain vital and functional shaping within our muscular system constitutes the matrix of our space-perception, I mean that I infer from the perceptual manifestations a corresponding state and activity in the veritable existent forming part of our extra-mental being.

With this clear understanding we shall now endeavour precisely to isolate our organ of localisation. In order to accomplish this, we have to dissever from its own peculiar manifestations other sensorial phenomena usually combined with them. To reach the bare feeling of tactile position—exemplified by the sensation of an acute pain definitely localised and effacing all qualitative distinctions—we first of all have to separate from it those subtle tactile modifications which give rise to the immediate recognition of the different members of our body, occupying at the time being the spatial positions directly felt. Through such delicate but distinct modulations of the fundamental sensation of position we at once know where to find any particular member

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we wish to use or to think of. It is obvious what strange disturbances of volitional movement must occur when we are not aware through immediate feeling where our limbs are to be found. And these peculiar motor disturbances will, through want of these special sensorial data, evince themselves, though the motility of the parts may be perfectly unimpaired and their sensibility in other respects normal. The sense of tactile position being thus independent of the sense of tactile quality intra-organically aroused, we may reasonably conclude that those specific modifications of our feeling of position are realised in a part of our centralising organ distinct from its direct space-centre. We shall presently be led to point out where in the brain this qualitative realisation most probably takes place.

Next we have to distinguish from bare feelings of position all those rich and manifold tactile qualifications awakened through specific stimulation from outside, and forming part of the object-world. We are justified in looking upon qualifications of this kind as specific energies superadded to the fundamental sense of position, for position can be directly realised independent of objective quality. Consequently we have to seek for a special organ in which such objective qualifications are molecularly incorporated and consciously realised. I think that after the psychophysical discriminations here made the organ where objective qualifications are realised will not be difficult to discover.

The recognition of a distinct centre of localisation has been much impeded by the false notions generally entertained with regard to the so-called muscular sense. Conscious phenomena differing widely from each other in their nature, and therefore necessarily referable to different neural centres, have been here jumbled together as constituting a single sense somehow active in our space-realisation. Thus the feeling of effort, always reducible to feelings of resistance, has been looked upon by many investigators as forming an essential constituent of space-consciousness. Feelings of resistance, however, belonging as they do to our volitional or executive capacity, lie far apart from the induced sensations of position belonging to our perceptual or receptive capacity. This view is corroborated by pathological cases in which the sense of resistance remains unimpaired, while the sensations of localisation are abnormal. Such a case, closely observed by an expert, will be presently mentioned.

To activities of the muscular sense is moreover often attributed our consciousness of the position occupied by the

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different parts of our body, a consciousness directing the proper co-ordination of our complex movements. Here the unqualified feelings of position and the qualified feelings of our different members are fused together, as if forming in reality one single sensation. We have, however, found that they are very distinct states of consciousness. In confirmation of this view, I will cite a case carefully watched by one who has made it a special study to notice the effect of brain-lesions. Professor Nothnagel tells us that one of his patients felt in his paralysed left arm every slightest touch, and could with his eyes shut quite well distinguish whether the touch was applied to the thumb or to any other part of the arm. But, "if asked to point out the touched spot with his right arm, he would search about in the air, and when not accidentally hitting, he almost always passed by at a distance from the arm". To this very important observation Professor Nothnagel adds this otherwise significant remark: "It is very surprising that, notwithstanding this, the patient could estimate weights with the left side, as well as with the right".[1] This proves that the sense of effort or resistance is, as has been already remarked, a different sense from that of localisation or position; and that consequently these two faculties ought not to be confounded in the ambiguous and otherwise mistaken invention of a "muscular sense."

There are old cases on record, in which patients on being pinched were able distinctly to feel the pain but quite unable to localise it, which peculiar incompetency would indicate degeneration of the organ of localisation. Unfortunately no careful post-mortem examinations accompany these clinical statements.

Anatomical, physiological and pathological considerations —too intricate to be here explained—all point, I believe, to the optic thalami as the matrix of our tactile space. Though Professor Nothnagel considers the extravasation actually found in the above case in the right thalamus to have been of more recent date than the affections of the sense of localisation, he is inclined to think that disturbances of the "muscular sense" are a symptom of lesions of the thalami.

Professor Meynert describes two cases in which patients assumed peculiar abnormal positions of one of their sides, though their power over the muscles remained unimpaired. In both these cases the corresponding thalamus was found diseased. He attributes the abnormal postures to a false

[1] *Topische Diagnostik der Gehirnkrankheiten*, p. 389.

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apperception (Wahnvorstellung) in the sphere of the "muscular sense".

It would be highly desirable that clinical observers should henceforth carefully notice abnormities of localisation. These have been hitherto almost entirely left out of account. Feelings of position form, however, the solid foundation of our entire world-realisation, which we have found to arise in its subjective aspect from intra-organically stimulated qualifications of felt positions, and in its objective aspect from extra-organically stimulated qualifications of the same spatial feelings.

Next, from a careful survey of experimental and pathological results, I think we are justified in regarding the cerebellum as the organ in which are realised the intra-organic qualifications of our sensations of position, those qualifications, namely, which make known to us the whereabouts of our different members. Indeed, as lesions of the cerebellum followed by disturbance of complex movements leave the voluntary power over the muscles unimpaired, and allow objective sensations of all kinds to be correctly localised and also properly qualified in accordance with the specific nature of *extra-organic* stimuli,—it is obvious that the pronounced incapacity of executing the necessary combination of motions requisite to accomplish a voluntary act must be due to the absence of the only remaining factor in the performance—the immediate qualitative discrimination of our bodily members.

Sir Charles Bell and Professor Maudsley relate cases in which patients who had lost neither sensibility nor motor power nevertheless let objects fall from their grasp, when their sight did not regulate the grasping organ. Here evidently, though the objective sensibility and the voluntary movements were normal, the *subjective* knowledge of the bodily member in use was wanting.

It lies to hand, then, to infer that the extra-organically stimulated tactile qualifications, which convey to us such manifold perceptual information concerning the object-world are realised in those parts of the cerebral hemispheres constituted by the fan-like neural irradiations from the thalami.

Thus the thalami would form the nucleus and unqualified foundation of that part of our perceptual faculty which is connected with touch; the small brain would furnish the subjective qualifications; the large brain, the objective ones. Our complete perception, however, is made up of a complex of all sensorial affections, of which those of vision, next to those of touch, are the most important. It would far tran-

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scend the limits of the present inquiry to show how visual space and visual qualities come to interblend in our mental presence with tactile space and tactile qualities. I will only remark that the corpora quadrigemina, anatomically so closely related to the thalami, have long been recognised as essential to sight, and that from cerebral lesions, pathological and experimental, it seems highly probable that the objective qualifications of sight, furnishing such subtle and plentiful data for the recognition of the outside world and therewith for our volitional reaction upon it, are, like the analogous qualifications of tactile position, effected in the large hemispheres.

Some time ago it seemed probable that the semi-circular canals of the auditory organ played an important part in space-perception. But the recent experiments of Dr. Baginski on rabbits and of Professor Sewall on fishes have placed it beyond doubt that these strangely disposed canals exert no essential influence on space-perception.

VIII.

It will be well now, in conclusion, to place in an unambiguous light the nature of the observations which have led to the interpretation of tactile space here given.

Berkeley, the veritable orginator not only of Nominalistic Idealism, but unwittingly also of Psychophysics, asserted that "when I excite a motion in some part of my body, if it be free and without resistance I say there is *space*, but if I find resistance then I say there is *body*". He advanced these experiential statements—rather dangerous to his main purpose—under the belief that the permanent beings of which the above motor attributes and activities are predicated, could, upon occcasion, be philosophically dissolved into perceptual phenomena caused by a superior power, a power not identical with the perceiving subject. Thus my own body and the motions I excite in it, together with the resistance "I find" and call body in general, are all in the light of Berkeley's system only induced perceptions, the causation and abiding potentialities of which form part of the indwelling might of a personality different from the one experiencing the evanescent phenomena of perception. According to this mystical view, what I call my body can properly be for me a mere transient percept existing only when excited in my mind by another being. Now, I would ask all Idealists who maintain the identity of perception and being, whether this percept, arising and vanishing in consciousness as it is awakened or ceases to be

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awakened by the exciting power—whether this ideal phenomenon—be indeed the same body of which Berkeley maintains that if it "were annihilated, then there could be no motion and consequently no space"? "When I excite a motion in some part of my body," do I excite this motion in the well-known percept so clearly presentable in my own mind, as well as in the mind of others? Does my volitional act directly affect the mentally fashioned existent which Idealists are bound to consider my true body, though it may be subsisting, at one and the same time, as a number of different but congruous perceptions in the consciousness of as many persons as are just happening to observe me?

Or, again, will anyone venture to assert, that when I seem to be exciting a motion in my own body, I am really exciting a change in another personality, namely in that being whose power over my mind is believed to be the compelling cause of my moving percept? In this case my will to move would influence in the other being a corresponding change of volition, the creative outcome of which would be my moving percept, or in other words the perception of my body no longer quiescent but manifesting the very motion willed by me, but miraculously effected by the other being as part-appearance of the transient perceptual phenomenon now arising under compulsion in my mind. This view, on account of its placing all causative efficiency producing perceptual appearances in a being different from the one experiencing the percepts, would lead to an idealistic Occasionalism far more hopeless to thought and perplexing to science than the dualistic one of Geulinx.

Whatever light the recognition of the mental constitution of perceptual objects, formerly believed to be extra-mental existents, may have shed upon our knowledge, the reduction of all existence to mere perceptual apparitions plays sad havoc with our philosophical insight into nature. It must be quite evident to everyone who has followed our psychological examination of tactile space that, when I am exciting a motion in any part of my body, I am really exciting this activity, not in the percept which I and others usually call my body, but in the permanent existent which under certain conditions necessarily gives rise to this percept.

You and others look at me and see my body. What you behold is your percept, a conscious phenomenon within your own mental presence. Now I excite a motion in my arm, which part of my body, having my eyes shut, I do not myself at present see. But, in consequence of my action, the arm forming part of the percept within your con-

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sciousness executes a certain motion. The question then to be put to Idealists in this connexion is: Has my mere idea, the bare volition to excite a certain motion, been the efficient cause of the moving of the perceptual arm within your mind, and is this perceptual arm within your mind the veritable arm I have actually been moving, the arm belonging in reality to my organic being?

It seems to me that whoever will seriously realise the difficulties in the way of an idealistic interpretation of this most common act of experience will feel forced to renounce for good a creed so impotent and phantasmal.

But now consider the evidence for extra-mental existents as the active and efficient agents in the case. I—with my eyes closed and without touching it—feel as an immediate complex of sensations the existence and exact position of my arm, of the very same arm which you perceive as belonging not to yourself but to me, and which in your objective view occupies the same spatial positions as in my immediate feeling. It is quite certain, that objective view of yours is not my veritable arm. It is just as certain, these immediate feelings of mine are not my veritable arm. Yet all these divers and transient signs in you and in me are signalising with utmost certainty one and the same permanent, consciousness-compelling existent. And when—by dint of a power as yet wholly unexplained—I effect that peculiar change which to you appears as a visible motion of your visual percept, and to me as an immediately felt series of definite positional shiftings undergone by those qualitative sensations which form the subjective aspect of my arm; surely it is not my veritable arm which is thus moving within your visual consciousness, nor are my shifting sensations the real existent then in action. We are convinced and act upon the conviction, that the motion you perceive and the shiftings I feel are indicative of an activity exerted by one self-same permanent existence forming part of my veritable being. Nevertheless your vision and my feelings are the only signs of existence and activity now extant; the rest is and must ever remain inferential assurance.

But to science and our well-being it is quite indispensable that inference of this peculiar kind concerning the disposition of extra-mental powers, and the belief in the existence of such powers, should be strictly regulated by a critical interpretation of the specific signs, subjective and objective, through which alone they are signalised to us. Physical science, having the objective aspect as subject-matter, has

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no other aim but this recognition of the existence and exact disposition of extra-mental powers by means of the mental signs they are capable of arousing. Now, to gain a valid knowledge of these powers, we are obliged to study with rigorous faithfulness their peculiar and always verifiable perceptual effects. In these compulsory perceptual effects, and not by any direct mental intuition, is to be sought the material of all our knowledge concerning the existence and peculiar constitution of the powers; and it is perceptual and not intuitive thought which gathers up all these scattered sensorial effects into consistent perceptual concepts.

As to the intrinsic nature of such foreign existents, apart from our perceptual realisation, we know and can know absolutely nothing. Their immediate subsistence abides altogether in extra-mental potentiality, in unconscious latency, and it is idle to think that its true nature can be guessed at by fancying it either similar to the objective colouring of its perceptual signs, or similar to any more subjective mental phenomenon of the percipient individual.

If our consciousness were open to the immediate presence of the realm of Otherness—if between the foreign powers and our individual mind, in which alone they effect their symbolical representations, there did not actually intervene what we call our organism—we should never be able to conceive any other mode of causation save that of immediate miraculous and self-efficient mental actuation. Perceptual Idealism in Berkeley's sense would prevail with those who believed that a foreign power of a personal kind was causing in our individual consciousness the configuration and stream of its percepts; Phenomenism would be the creed of those who looked upon the figured stream of perceptual appearances, together with all other conscious phenomena, as consisting of self-sustained mentality; and the Identity of constructive thought and veritable being would be rightfully maintained by such as viewed the incomprehensible appearance of perceptual phenomena as a tentative effort of our understanding on its progress toward an intellectual intuition of the one eternal existence.

Now the central truth on which, in my opinion, all correct philosophical interpretation hinges, lies in the inferred assurance that the permanent, consciousness-compelling but itself extra-mental existence forming our veritable self,—the real specific cause not only of those sensorial phenomena making up the physical aspect of our being but also of those more immediate mental phenomena constituting its subjective aspect,—is to be found not in a power inherent in

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any other personality, nor in an influence emanating from a foreign source of any kind, but in an abiding endowment of specific energies appertaining exclusively and inalienably to our own indiscerptible individuality. I have to insist on just that which has been so emphatically repudiated by that genuine philosopher, Mr. Shadworth Hodgson, from whose subtle and lucid thought so much may be learned. We have unequivocally to "assume" as foundation of all true philosophical interpretation of mental phenomena "a causal agency," not indeed emanating from a supernatural Ego, such as is made use of by rationalistic Psychology and synthetical Idealism, but a causal agency constituting the veritable natural subject itself, whose activity—culminating in its own mental presence—becomes manifest to observers as their perception of a system of vital functions. Our sober aim is the correct understanding, by means of all conscious manifestations, of the realising, identically-abiding human individual, the veritable person symbolically experiencing a world of otherness affecting his weal and woe, and helping to shape his own temporal destiny by designedly reacting on the medium actually surrounding him. We are content to resign the larger hope of catching glimpses of an ocean of eternal being, in which our own stream of consciousness forms but a slender current. We believe the autonomy of our own personality to be the key to our relations with the rest of the world. For us the transcendent import of such personality lies not in its mental unity with any other power, but in its heirship of organised results.

If the pursuit of philosophy really involves, to begin with, disregard of the subject experiencing the mental phenomena and disregard of the foreign powers compelling perceptual figurations, then in the name of the Philosophy of Organisation we confess ourselves utterly impotent to cope with such a world of dream-like apparitions, self-contained and self-feeling, floating along in a shoreless stream of objective time and phantasmagorically reflected by individual consciousness. To us mentality is the actualising of our own reintegrated store of organised potentialities; not the passing by of ever so ample a flood of self-subsisting consciousness. Recognition of reality in our view is not awareness, in fitful gleams of reflection, of a boundless realm of self-existent mental actuality. We believe that we recognise reality by means of a language of sensorial signs specifically aroused as affections of our own being, a language whose objective meaning we are able to understand by dint of an organically pre-

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established harmony between our sensorial potentialities and the powers arousing them, and whose subjective meaning we infer through connaturalness of our own intrinsic nature with the intrinsic nature of the affecting powers.

Without the realistic supposition of extra-mental but perception-compelling powers—physical science is impossible. Without the realistic supposition of an extra-mental but perception-compelling and self-feeling individuality—psycho-physical science is impossible. Without the realistic supposition of an abiding, extra-mental and ever reintegrated person, who experiences as affections of his own all mental states—psychical science is impossible.

Much unwarrantable use has been made since Aristotle of those very pliable relative conceptions which he introduced into philosophy as *δύναμις* and *ἐνέργεια*; but the distinction is nevertheless fundamental to the understanding of our world-realisation, and this for the evident reason that mental states are all transient and fragmentary, and necessitate therefore a permanent system of underlying potentialities, in order not to emerge from nothingness and then fall back again into it. Such a system of efficient subsistence, in its veritable being independent of fitful mentality, offers itself to our unsophisticated recognition in the evolutionally organised and thereby all-endowed vital individual; a substantial existent having the capacity of being definitely energised by foreign powers, and possessing itself the power of energising specifically other beings.

What is usually called our body or organism is merely the physical aspect of this our being, the definite system of perceptual representations caused by the specific influences of the veritable existent on myself and others. It is the effect which its peculiar stimulating power is able to exert chiefly on sight and touch, an effect arising and passing with the stimulating activity.

But the perceptual effect which my extra-mental being arouses in others, and the perceptual effect which it arouses in myself, though turning out to be congruous in appearance, differ in their respective modes of production in this essential point—that the former is an effect induced in a foreign being, the latter an effect induced in the being who is itself the inducing agent of the perceptual effect. The consequence of this difference is that I can receive knowledge of the nature and existence of the perception experienced by the foreign being only by the same means as I receive all other information concerning foreign existences and their activities, namely, through the specific signs which they are able to

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arouse in my consciousness. I become aware of the outsider's percept of my physical nature only through peculiar actions of his, inducing in me physical signs indicative of his perceptual realisation; such for instance as movements of recognition, verbal descriptions, drawings, &c. However—and here is the supreme mystery that makes by transcendent affinity the world akin—by no compulsory rousing in me of any amount of sensorial effects could I ever be able to recognise the significance of such mere physical signs, if I had no inward experience of mental phenomena of my own that happen to be like those the outsider is conscious of. Of these his conscious realisations he alone is aware. Their mental existence is altogether concealed from me and all other beings. Only connaturalness of my own individual constitution with his veritable extra-mental nature enables me to understand the true meaning of his physical expressions.

Thus when I myself am realising the physical aspect of my own being, I and I alone am the person in possession of the particular perceptual appearance. Whatever number of observers, besides me, may be realising a congruous percept, they do in no way participate in this mental realisation of mine. In each of them the percept they personally experience is separately aroused. But each of these separate states of different minds points to the same specific source of stimulation. And this is mainly achieved through identity of localisation, through the marvellous spatial coincidence of the percepts of various realising minds, a fact of nature contemplated in former sections of this paper.

Indeed it is only in a roundabout way that we ourselves become aware that the percept which arises in us, and which is found congruous with the physical aspect other observers have of our being, does really signify our own individuality. This identification is accomplished chiefly through the spatial coincidence of the subjective with the objective aspect. The hand I touch and see coincides spatially with the hand I immediately feel. How great a part is really played by spatial congruity in this identification of our objective aspect with our self-feeling, cannot be doubtful to anyone who, not knowing of a mirror in front of him, has first politely tried to avoid and has ended by running up against a stranger, that turned out to be his own image! To such failure of recognition and crazy performance the spatial displacement of sensations may give rise.

It is clear that the validity of psychophysical science depends entirely on our being really justified in regarding the objective or perceptual aspect of an organic form as signi-

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fying the veritable being having the feelings which constitute the corresponding subjective aspect. This identification though experiential as regards its conditions of realisation—having to take place through the experiential organs of sight and touch—is nevertheless wholly intuitive as regards its conscious effectuation. As soon as I cast my eye on my hand or any other part of my body, its visual aspect—quite independently of any volitional or recollective act of mine—blends at once spatially with its subjective self-feeling. And when, moreover, I touch the seen and felt part with my other hand, I am immediately aware that the tactile sensations I objectively realise again exactly coincide in their spatial position with the self-feeling of the explored part. Thus by intuitive means the conviction is forced upon me that the different sets of feeling, because of their occupying one and the same space, must be indicative of the self-same existent. This intuitive conviction of the presence of an identical existent, whenever sensations spatially coincide, holds good also when different objective organs realise sensations spatially coinciding with each other but not with any immediate self-feeling. And it is on account of this absence of spatially coinciding self-feeling that such objective sensations are held to be representative of foreign existences.

My arm is covered up, and only my hand exposed to view stretched out on a table. At its side lies a skilfully-executed wax-model of this very hand in the same position as I am now holding it in. Both objects look exactly alike. If tactile conditions could be as well imitated as visual ones, an outsider would have no means of knowing which hand belonged to me. How do I myself know, without moving, by sight and touch that the one hand is mine, the other not? Obviously because my visual and tactile sensations, spatially blending with each other in the perceptual realisation of the two objects, are accompanied in the perception of the one by the additional spatial coincidence of self-feeling; and not so accompanied in the perception of the other.

The fundamental assumption of Psychophysics then consists in taking the objective aspect of a living individual—realisable by an observer through his senses—as owing its appearance to an existential manifestation of the identical being who experiences conscious phenomena, that are signalised in the objective aspect by vital functions occurring in that part of the perceptual representation called a nervesystem (with sensory organs on the one side and muscular fibres on the other as peripheral appendages).

This assumption sounds rather complex and roundabout.

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Yet such is nature. No natural fact could be more plain and immediately certain than that you see a friend bowing to you. But is not the human form you perceive undeniably your own percept, and the movement of its head but one of those changes in the percept called vital functions? And are not these perceptual data the only manifestations present to you as percipient subject? Where then is the veritable person who recognised you and expressed this recognition by a friendly bow? Materialism and Idealism are equally far from being able to account for the veritable nature of this necessarily assumed existent.

How infantine our little attempts at world-explanation must still be considered, may come home to us if we remember that our most prominent scientists still look upon the perceptual representations of their own consciousness as the veritable foreign existents whose intimate nature they are investigating; endeavouring to express it in terms of imagined elements of such perception, which fancied ultimate world-stuff can be truly nothing but shifting points of evanescent feeling, by them however hypostatised in permanency as adamantine atoms with eternal motion. On the other side, we find our most prominent philosophers still trying hard, after so many centuries of failure, to organise identically-abiding being out of mere mental fire-works in the feeling and thinking individual; seeking by means of memory to fashion in mid-air an enduring universe of thought from the scintillating play of vanishing sparks.

To gain an adequate knowledge of the phenomena reflecting the wondrous vital subsistence and activity of our mystic being in its interaction with the realm of otherness, we have to avail ourselves of the data afforded by its objective aspect as well as of those afforded by its subjective aspect. This we have in some measure endeavoured to do with regard to the formation of Tactile Space; which conscious phenomenon we have found to be altogether dependent on the most specific organisation and vitality of the permanent, extramental individual experiencing the phenomenon. And, thus informed of the veritable conditions underlying space-manifestations, we feel utterly unable to conceive of anything like space as existing objectively in an extra-organic world, or subsisting as an ideal reality apart from vital organisation.

NOTE.—I hope I may be allowed a few supplementary remarks in reply to the charge which Mr. Richard Hodgson brings against me, in MIND XXXIX. 328, of giving an "utterly erroneous interpretation" to Mr. Herbert Spencer's doctrine of Transfigured Realism. The only allusion I ever made to Mr. Spencer's special rendering of Transfigured Realism occurs in

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a footnote in MIND XXVII. 384. There I assert that Mr. Spencer "is himself fully aware of the incommensurability of the stimulating powers and their effects within mind," and that "Transfigured Realism" is a "misleading term," "an unfortunate name" for the relation obtaining between these incommensurable existents; the one being a system of conjectured extra-mental power-complexes, the other a system of actual conscious facts. And I farther assert, that the illustration by which Mr. Spencer endeavours to render clear this peculiar relation is "still more unfortunate".

The term "transfigured" is misleading and unfortunate, because it expresses an operation implying as pre-existent a figured or formed object, whose figure or form becomes changed during the operation. Now the conjectured extra-mental power-complexes are in no way figured or formed existents, and the corresponding conscious figurations are therefore not "*trans*figurations" of such existents. As Mr. Spencer's exposition of the "transfiguration" of an extra-conscious world into the intra-conscious world is moreover illustrated by a special diagram, in which a cube—undeniably a figured or formed object—is made to stand for an incommensurable, merely conjectured, extra-conscious power-complex, which existent is here graphically shown to be really *transfigured* into a differently shaped object; I think such an illustration, however verbally qualified, may well be called unfortunate. All the more so, because it is the common, unphilosophical belief, that formed objects actually exist outside consciousness.

I think that whoever remembers the various strange ways in which Mr. Spencer, at times, allows extra-mental force to produce mental states, or even to be altogether metamorphosed into mental modes, such as "sensation, emotion, thought," will give me credit for having expressed his view of the relation of extra-conscious to intra-conscious reality as he conceived it in his most clear-sighted moments, leaving aside his dimmer thought.

Perhaps Mr. Hodgson will now understand why I speak of mental "figurations," and not of "*trans*figurations," and why I object to "the very prevalent theory that outside *things* are *reproduced* in the organism in a *transfigured* state," which prevalent theory I, in the passage above quoted, deliberately declare *not* to be that of Mr. Spencer, though he uses the "misleading term". In this connexion, I think it is likewise intelligible why I reject the idea of formative and qualitative representation, such as obtains between a photograph and its original, or between a perspective drawing and the object figured. From this kind of transfigured representation, I distinguish "symbolical representation," in which a sign signifies something totally incommensurate with itself; a mental sign standing for a definite extra-mental reality.

Mr. Hodgson disposes of my entire view, as "being, in its primary assertions, in nowise different from Mr. Spencer's". Is this really the case? Have many years of assiduous original research resulted in nothing but plagiarism? The suggestion is worth a moment's consideration.

Mr. Spencer, on the subjective side, assumes a "receptive consciousness," an unknowable, abiding something, of which definite mental units prove to be the manifest component elements, and which displays various modes of "mental force". I, on the other hand, endeavour to show that consciousness is from instant to instant the forceless, unitary creation of activities taking place in that most specific, permanent, extra-mental existent, of which our so-called body or organism is a mere perceptual realisation.

On the objective side, Mr. Spencer assumes, as the outside power affecting our sensibility, an all-efficient Unknowable, whose manifest modes are compounds of units of physical force. I, on my part, infer that the out-

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side influences, arousing our conscious states, emanate from definite, interdependent and interacting power-complexes, of which our compelled percepts and their changes are symbolical representations.

My scientific investigations have proved that the organism is not a conglomeration of separate units, but a single differentiated and variously specificated unity; that, in accordance with this, its complex consciousness does not consist of an "arrangement of like units of feeling," but is a general sensibility differentiated and variously specificated in conformity with the differentiation and specification of the sensory organs, which in their turn owe their differentiation and specification to the diversified influences emanating from the power-complexes encompassing the organism. Organic and mental *specification* is my theory, and not *composition* as hitherto believed in by Biology and Experiential Philosophy.

That my own view differs profoundly and essentially from Mr. Spencer's, will be evident, when I re-assert that I do not believe in the Persistence of Force and the convertibility of its modes (*Pop. Science Monthly*, Sept., Oct., 1878). But it is on this one fundamental principle that Mr. Spencer professes to base his entire philosophy, and therewith also his psychology. I do not believe that either physical or mental modes are modes of an all-comprising Unknowable. On the contrary, I firmly believe that both kinds of modes are functions of that specific, extra-mental power-complex, which is realised in consciousness as our organism; and that the "physical forces" of Mr. Spencer are likewise not modes of the Unknowable, but influences of definite, extra-mental power-complexes. Moreover I do not believe that the conscious effects, either of the physical or of the purely ideal kind, are ever converted into each other. And just as little do I believe that the extra-conscious activities underlying such conscious effects are ever converted into each other. In fact no kind of extra-conscious force is ever converted into any kind of conscious state; and nothing mental is as such ever capable of being metamorphosed into any kind of force. There is nothing in nature corresponding to what Mr. Spencer calls "mental force".

I rejoice to find that the views concerning the relation of consciousness to the organism and the surrounding world which I was led to adopt as the result of years of biological research and continual pondering of its philosophical implications, are to a great extent shared by so vigorous and zealous an expounder as Mr. R. Hodgson. Those same studies have, however, compelled me to form an opinion regarding the conscious data underlying our conviction of extra-mental reality completely at variance with Mr. R. Hodgson's own conclusions on this subject. But, on reconsidering the matter, Mr. R. Hodgson will perhaps come to doubt whether the whole massive conviction of our own organic existence, and that of the solid, illimitable, endlessly diversified universe of which it forms part, and through which it is shaped and sustained, can well hang on so slender a thread as a mere "relational feeling" between "a vivid feeling of Will" and "a faint feeling of Will".

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III.—FREE-WILL AND COMPULSORY DETERMINISM.[1]

A DIALOGUE.

By SHADWORTH H. HODGSON.

Biatas—Philophron.

B. I am astonished, Philophron, that you should countenance the extravagances of Tychicus, in his argument for free-will, you who have hitherto professed the most thoroughgoing determinism.

P. Not his extravagances, Biatas. Do me the justice to remember that I expressly limited my approval to his assertion of the fact of free-will, and expressly withheld it from the hypothesis by which he attempted to justify and explain it. A fact is one thing, its scientific explanation is another, and both are different from its philosophical analysis.

B. Ah, there comes in your favourite subtilty, that things are different in common sense from what they are in science, or in what you are pleased to call philosophy. But in this case, Philophron, you will be disappointed. The very question is, whether free-will in the meaning intended by common sense is a reality or an illusion; and you will grant that the decision of this question depends upon the scientific explanation which can be given of the phenomenon.

P. I grant it, Biatas. It is, as you rightly say, by the verdict of science, that is, in this case, of psychology, that the reality of free-will stands or falls.

B. Frankly spoken. I expected, indeed, no less from your accustomed candour. But now, Philophron, see how you have entrapped yourself. Tychicus may fairly allege that those spiritual substances, which, according to his hypothesis, are the real free agents, are absolute originators of action, and strike into the chain of phenomenal causation from a higher region, where determination by motives is unknown. His freedom is an euphemism for chance. But determinists are precluded from this hypothesis; for they at least are bound to admit that, even supposing the existence of spiritual

[1] Read before the Aristotelian Society on March 9th.

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substances, still their action is inconceivable except as subject to uniform law. Tychicus explains the reality of free-will by assuming the existence of beings who are not subject to the law of uniform causation. Determinists must hold the existence of such beings to be inconceivable, and therefore, whether possible or not, at any rate incapable of affording an explanation. Choose then, O candid Philophron, between the hypothesis of Tychicus and your own once firmly held determinism.

P. Choose, Biatas?

B. I notice your innuendo; but you do not so escape me. Know that I am but using the word in its common-sense meaning, without prejudicing the question of its real or scientific meaning. This is your own principle.

P. Certainly. And I am delighted that you thus practically acknowledge the justice of the distinction.

B. As you will, Philophron; but now please to face the dilemma. The indeterminists, you know, who ignore your distinction and take freedom of choice, without more ado, as an unquestionable reality, assume, as the agent or subject of it, a being who, having the power of choosing freely, is not wholly subject to the law of uniformity. They thus make an entity of an abstraction, since they define the entity which they assume solely by the abstraction—freedom—of which they assume him to be the organ. Their free agent is nothing but freedom hypostasised. Do you, who assert free-will, adhere to this abstract entity, or to the law of uniformity which it abrogates? Declare yourself.

P. I declare for the law of uniformity, and I utterly renounce the abstract entity of the indeterminists.

B. Then how can you assert free-will?

P. By renouncing some other abstract entities, which are equally obnoxious to logic with that of the indeterminists, which we both renounce. I will show you that your supposed dilemma is no dilemma at all, but that both freedom of choice and free agents are perfectly compatible with the law of uniformity, which is one horn of it, so long as neither this abstraction, nor any others in combination with it, are made into active entities. Pray, Biatas, what in your opinion is the characteristic mark of free action? In other words, what is your definition of freedom?

B. You cannot, I think, object to that of Hobbes, "Liberty is the absence of all the impediments to action that are not contained in the nature and intrinsical quality of the agent".[1]

[1] *Of Liberty and Necessity.* English Works, ed. Molesworth, iv., 273.

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This is a definition of freedom as it is understood by plain common sense in ordinary life, and at the same time avoids the fault of *obscurum per obscurius*, which attaches to the use of such terms as *power*, for which, you see, Hobbes substitutes "absence of impediments".

P. True, Biatas. And it has the additional advantage of not begging the question at issue; which would be the case if, for example, it defined freedom as the opposite of necessity, or as something that escapes the law of uniform causation. I therefore frankly accept the definition as a basis of argument.

B. Good, Philophron; pray proceed. I am curious to see how, starting from Hobbes's definition, you will avoid coming to Hobbes's conclusion, which is, that all determination of the will by itself is an absurdity. The question, you are aware, is not whether a man can ever be truly said to be free to do what he has willed, for all admit freedom to be a reality in this sense, but whether he can ever be truly said to be free to determine his will to choose or abstain from something to which there are no external impediments. This alone is the question whether he is free *in willing*, or, in other terms, whether he possesses *free-will*.

P. I could not wish the question better stated. Now tell me, Biatas: this determining the will, this willing,—is it not an action; in short, is not *volition* an action?

B. Certainly; the question being, whether this action called volition is in any instance a *free* action.

P. True. And an action supposes an agent, does it not?

B. Undoubtedly.

P. Then what is the agent who acts in such cases as we are we speaking of? Say, for instance, that in walking along the street I come to a post straight in front of me, and there is equal facility of passing it on either side. In passing it on either side, I am clearly the agent concerned, and a free agent in the sense admitted by us both, of having freedom to do what I have willed. But what is the agent which performs the action of selecting whether I am to pass it on the right hand or on the left, supposing all sense-presentations at the moment to be suggestive of either alternative indifferently? I don't wish to surprise you into admissions, but it seems to me that *I* am just as much the agent in the one case as in the other.

B. I don't see how I can deny it, Philophron.

P. And can you see any reason why the agent should be less free in performing the one action than in performing the other? I seem to myself to be equally free in both. In the

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case of the selection, there is an equal "absence of all impediments" to the selection, "that are not contained in the nature and intrinsical quality of the agent"; seeing that the selection is wholly immanent, a transaction within the four walls, so to speak, of the agent's mind.

B. Stop a minute, Philophron. Without carping at your rather risky metaphor, I confess I do not see how *you*, or rather let me say, in order to speak in the third person, your *ego*, is the agent determining the selection. If we could have the whole process before us in its minutiæ, we should probably find that some cerebral habits, functioning perhaps for the most part below the threshold of consciousness, but not the less real on that account, were the unconscious motives which gave the choice of going to the right the preference over the choice of going to the left, or *vice versâ*. The strongest of such habits, in that play of forces which is set up in your brain by the sight of the post in front of you, is the real determinant of the selection, by overpowering counter habits and motives. Your *ego* is not the determinant, but is determined by the strongest motive.

P. In the case of the selection, then, you contrast the *ego* with the cerebral organs and functions engaged in the selection?

B. Yes.

P. And in the case of the overt action which follows it, the actual walking past the post, do you similarly contrast the *ego* with the whole agent who walks past it?

B. Explain your meaning.

P. In saying *I walk past the post*, the word *I* stands for the whole visible concrete person. In saying *I select* whether to go to the right or left, the word *I* should similarly stand for that concrete part of the person which is engaged in the selection, that is, for the cerebral part. It is a shorthand expression for the agent engaged, whatever it may be, provided self-consciousness accompanies the action.

B. Very true. We are not now engaged in ascertaining the true definition of the *ego*.

P. Now, I think, you will see my drift. In the case of the selection you desert this rule, and contrast the *ego* with the cerebral organs and functions engaged in the selection.

B. Well, what of that?

P. Only that to do so supposes a previous analysis, establishing the true definition of the *ego*, and the true relation between the *ego* and the brain.

B. But neither analysis nor definition of the *ego* is our present business.

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P. Very true; and therefore you cannot pre-suppose their results. You cannot contrast the *ego* with the brain, but must restrict yourself to mean by the *ego* the whole agent concerned in the selection.

B. Well, Philophron, I have no objection to that.

P. I am delighted to hear it. You will grant, then, that in making the selection the *ego* is the determinant as well as the determined. That is to say the *ego* is self-determined, and that too in obedience to the law of uniformity. But the *ego* engaged in a selection is called the *will*. The will, therefore, is self-determined according to uniform law. Also, the *ego*, or the will, in its selective action, or volition, is free in the sense required by Hobbes's definition of freedom, since, as we saw, there is an "absence of impediments that are not contained in the nature and intrinsical quality of the agent".

B. Do you mean that when the *ego* is taken in contrast with the brain, the volition appears compulsory on the *ego*; and when it is taken in combination with the brain, the *ego's* volition appears free?

P. I do; for in the latter case the brain and *ego* together are the thing determining as well as the thing determined. When the *ego* is contrasted with the brain, it must either determine its action or be itself determined by it. And you have declared your preference for the latter alternative.

B. Because the former alternative is unthinkable. What power can possibly reside in the bare *ego* of producing its own motives *ex nihilo*?

P. Granted. But, on the other hand, what capacity can reside in the bare *ego* of being acted on by motives *ab extra*? Pure passivity is just as unthinkable as pure activity.

B. I admit we cannot see the exact *modus operandi*. But we do know this, that whatever the nature of the *ego* may be, it must be subject to an uniform law of determination; that is, supposing it to exist at all. You do not deny the existence of the *ego*, Philophron?

P. Certainly not. I consider the *ego* to be somehow or other involved in the brain-action, and to share in its reality. You, however, separate it from the brain, without defining it in any other way than by a supposed capacity for being determined *ab extra*; whereas, if it is a reality, it cannot be determined without re-acting. You thus make an abstraction into an entity; and the only difference between your abstract entity and that of Tychicus is, that yours is arbitrarily defined by a capacity for being determined and his by a power of determining.

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B. O Philophron, you set me up a glass indeed!

P. Yes, Biatas; and you shall not budge till I show you, that the *ego* is not the only abstraction which your supposed dilemma requires you to conjure into an entity. Pray do you consider the law of uniformity as a law of nature or of man?

B. A law of nature.

P. It has, then, no power of commanding or compelling obedience, but is simply an expression for the most general fact in the world of reality, namely, its orderliness.

B. Certainly, Philophron. Unlike human laws, those of nature may be more properly said to obey than to command the deeds of nature. They are, as you say, the abstract expression of the events which, metaphorically speaking, we describe as obeying them.

P. Good. Then in saying, as you did just now, that the *ego*, whatever its nature, must be subject to an uniform law of determination, you did not really mean to imply that the *ego* was constrained by the law, and was unfree on that account?

B. I am afraid I did not consider the matter so closely. I only meant that the subjection to law was evidence that the *ego* was constrained somehow.

P. But if the *ego* is constrained, the constraint must be exercised by something, and it is important to consider by what it is exercised.

B. True; and I now see that it cannot be exercised by the law of uniformity, which is an abstraction, and incapable of operating as an entity. Did you seriously suppose this was my meaning?

P. I could not be sure it was not; and indeed you confess that you hardly knew yourself. But there are many who do mean it.

B. Who can they be?

P. They are called Fatalists. *Fatum* is a law of nature conceived as operating like a human law, and determining the course of events by its inherent force, sometimes personified as Destiny. The particular fallacy of making an agency of law is the characteristic of fatalism.

B. I utterly abjure this form of compulsion, Philophron. But your argument has served a purpose you little intended. It has shown me my own meaning more precisely. And I now see, that the constraint to which the *ego* is subject is due to the real force or forces, of which laws are but the abbreviated expression. In the chain of concrete natural

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events, constraint arises from the fact that force is at work, not from the fact that it works with uniformity.

P. What is a force, Biatas?

B. A force is that by which one particle of matter acts upon another.

P. Good, so far as it goes. There is, I think, an addition to be made to it, which we may perhaps come to afterwards. Enough for the present, that you do not hold, that a force can exist and act independently of the matter on which and the matter from which it is said to act.

B. Assuredly I do not.

P. Then would it not be better to say agents in action, instead of forces?

B. What would be gained by that?

P. You would preclude the abstraction, force, from being tacitly converted into an active entity or agent.

B. But who could be so stupid as to imagine such a thing?

P. Many imagine it who are by no means stupid. Many imagine the existence of an extra-mundane Power, which they define in no other way than by the supposed circumstance of its imparting motion to the otherwise inert matter of the world, and so determining by compulsion *ab extra* all the events which take place in the world.

B. Whom particularly should you name as believers in this Great First Force?

P. You cannot expect me to enumerate them. It would be unfair to do so without bringing the error home to them severally, which would now be out of place. But I will give you a general description of them, by naming the source of their error.

B. Pray do so.

P. Those who fall into this error are those who fail to distinguish between *nature* and *genesis*.

B. What new subtilties are these, Philophron?

P. In the case of matter and force, the local content of any particle of matter, at any moment, must be counted to its nature, and the change of its state with regard to rest or motion must be counted to the genesis of the events in which it is concerned, whether as agent or patient. Force is part of the content of the particle at any given moment; the particle is its local seat. The moment of change in its state, on the other hand, is a moment in the order of time; and the particle in respect of all such changes is said to be the agent or patient, not of force, but of energy, whether potential or kinetic. The spatial origin or seat of force,

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and the temporal origin or genesis of change, are two quite different things.

B. Go on, Philophron, and may the gods deliver you from the labyrinth you have contrived!

P. It is a clue, not a labyrinth, that I am proposing. Do you mean that the two things I have distinguished are really identical?

B. Well, I see that a place is different from a time. But I own I do not see how this bears on the question of force.

P. In this way. If you take the commencement of an operation of one particle on another for the commencement of force in the particle operated on, you are thereby supposing the particle operated on to be originally empty of force, and land yourself in the absurdity, that all force is force *ab extra*.

B. Pray why is this absurd?

P. Because what holds of one particle holds of all alike. If change in every particle of matter comes solely from without, it is clear that no particle possesses a principle or is a local origin of change. All change of state in the material world is thus rendered theoretically impossible, which contradicts experience. Force must therefore be conceived as inherent in every particle of matter, and what it exerts *ad extra* must belong to it *ab intra*.

B. I think I follow you so far. But how does this bear on the Great First Force which we were speaking of?

P. In this way, Biatas. If no particle of the material world is a local origin of change, by possessing inherent force, but all change comes *ab extra*, it follows, on the same principles, that the changes which we experience must have been originally set up by an extra-mundane force. And since this force has no material seat, and yet is supposed to act like the intra-mundane forces, it is what we fairly call an entity created from an abstraction. This is Hobbes's notion of force; and he does not better his position by calling this entity God, and, under colour of that name, professing that it is inscrutable.

B. O Philophron, I see your meaning. Force between the mundane particles, exerted on all and yet exerted by none. Force beyond the mundane particles, exerted on all and yet exerted by nothing. Two abstractions made into entities; two absurdities posing as explanations.

P. Yes, Biatas, so it is. And note the origin and course of the fallacy. First, the confusion between the spatial and the temporal origin of change, leading to the substitution of the conception of energy for that of force; next, the robbing

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matter of its inherent force; then, the imagination of an extra-mundane seat of force, which is really conceived as energy; and finally, as the consequence of the whole, the subjection of the whole material world, with all that it conditions and contains, to a blind, inscrutable, and irresistible Power;—which is compulsory determinism in its most aggravated form.

B. I wonder no longer, Philophron, at the desperate expedients which spiritualists and indeterminists have caught at, to escape from such a grinding and enslaving tyranny.

P. Scientific materialism offers the true mode of escape, I mean materialism within the legitimate bounds of science, and not elevated into a philosophy of the Universe. This restriction is important. Science does not attempt to explain how matter comes to exist, neither can it assume that it is self-existent from all eternity. It simply takes matter as given, as an ultimate *datum*, for scientific purposes. On this basis, it is a plain fact of experience, that we cannot sunder the conceptions of force and matter, otherwise than verbally, that is, by way of abstraction. When we speak of either of them as a real existent, we must restore it to its original other half. This, I take it, is the philosophical justification for Newton's ascribing *vis insita* to every particle of matter. Without *vis insita* there is nothing in any particle of matter on which *vis impressa* can operate; and moreover nothing which can be exercised as *vis impressa* in re-action upon that operation. In the mere existence of a particle of matter, as a coherent unit, some force is involved. To say that all force is force *ab extra*, or *vis impressa*, is to reduce matter to an abstraction, as well as force. It would be well if people would open their Newton at the Definitions, instead of beginning with the Axioms.

B. Persuade our physicists of that, Philophron, if you can.

P. I confess I think them too apt, generally speaking, to hurry over that part of their science which connects it with philosophy. Newton's distinction between *vis insita* and *vis impressa*, in the Definitions of the *Principia*, may be called the philosophical basis of the whole work, because it connects the nature of matter with its operation, the genesis of changes in its states.

B. I will consider what you have urged, Philophron. Meantime, are we not in danger of dropping the thread of connexion between these speculations and free-will?

P. It is easily recovered, Biatas. If every particle of matter has *vis insita*, which in presence of other particles is exerted as *vis impressa*, it is clear that every particle of

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matter, in the action of any material system, contributes its quota to the result, contributes, I mean, to bring about that position and configuration of the system, in which it is found when the action is completed.

B. True. At any rate that is the view which a scientific experientialist must adopt, who cannot travel beyond the material world for an explanation of the properties of matter.

P. Observe in the next place, that living organisms are material systems, and the same thing is true of them in that character. And thirdly, I remark the same thing of those cerebral parts of organisms, which are the agents of volitions. Observe, I say nothing of what kinds of matter may or may not be included in the living organisms, or in the cerebral parts of them. *Vis insita* belongs to all particles of all kinds of matter, be it etherial or other, however constituted, or, in short, matter in any mode of aggregation and any degree of tenuity. Do you grant me this, Biatas?

B. I at least have no difficulty in doing so. Whether those who agree with you in upholding free-will would do the same, I cannot say.

P. For my part I had rather establish free-will upon conceptions which I have, than upon conceptions which I have not. I think I can establish it upon the conception of matter. I have no positive conception of spirit.

B. Pray proceed.

P. Very little more requires to be said. Recall our instance of volition, the selection of the side on which to pass a post in the street, which is a selection performed by a cerebral part of the organism, and which we saw conformed to Hobbes's definition of freedom.

B. But you do not mean, that the mere fact, that every particle of matter in the organ concerned contributes its quota to the action of the organ, suffices to make that action a free action?

P. Certainly not. This merely shows that action is a reality; but the reality of action is a pre-requisite to the reality of its freedom. The criterion of free action given in the definition is, that it is an action unhindered by impediments that are not contained in the nature and intrinsical quality of the agent, in this case the cerebral organ. The volition itself, the selection or choice of sides, is the action of which the cerebral organ is the agent. The particles composing the organ act and re-act upon each other, and the question is, whether the upshot of their combined action is hindered or unhindered from without. The selec-

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tion itself, that is, the mental decision between the two sides, is the upshot in the present case. If the decision is arrived at without impediment from other parts of the brain, the volition is free according to the definition.

B. Why, Philophron, *all* volitions are free in that case.

P. All actual volitions, Biatas. A volition which is hindered from without is a volition which does not take place actually, or rank as a volition. It is an action free in its beginning, but, owing to action from without, not suffered to reach its end. Not all actions are free, but all completed volitions. This is why we speak of free-will. In volition freedom is involved. Will means free-will.

B. But you do not surely rest your argument on these definitions?

P. By no means. That is a short way with adversaries which is seldom advisable. There are those who would have begun with asserting these definitions, saying that to them they were the only intelligible ones, and there have left the argument until it should please the gods to enlighten their opponents. I deemed it incumbent on me to show that they expressed the facts.

B. Then according to you, Philophron, the famous distinction, that a man may be free to do as he will but is never free to will as he will, is a fallacy.

P. It is a piece of sophistry. But understand me. It is quite right and necessary to draw the distinction between the two cases, as a means of investigation. But the conclusion, that a man may be free in the one case and is never free in the other, is a sophism resulting from taking man in the concrete in the one case, and substituting some abstract *ego* or will, which is equivalent to denying his real existence, in the other. The concrete agent concerned may be equally free or constrained in both cases, and in the same sense of freedom and constraint.

B. In short you have shown that *willing as he will* is a case of action on all fours with *doing as he will*, in which freedom is admitted to be possible?

P. Yes. And the sophistry of the opposite view lies in the phrase *willing as he will*, which quietly introduces the supposition of an abstract will or *ego*.

B. Really, Philophron, I begin to yield. But tell me how it was, that all this was never discovered before?

P. It is not a discovery, Biatas. It is merely thinking out the mechanism of what every man immediately perceives, but without analysing it, his own freedom of choice.

B. But surely it is remarkable, that this thinking out should not have been done before.

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P. It would be if it had not been. But probably it has been done over and over again, and the philosophic public has been inattentive. There is nothing remarkable in that.

B. Can you name an instance?

P. Yes. Dr. Henry Travis, in his little work, *Moral Freedom reconciled with Causation*, published by Longmans in 1865, just twenty years ago.

B. Do you mean that the arguments you have used are to be found in that work?

P. Of course I have stated the case as it presented itself to my own mind independently. Had I had nothing of my own to offer, I should have contented myself with naming the book at the outset, and making it my shield against your onslaught. But you will find all the essentials there, the true point seized, and the conclusion well worked out in detail on the psychological side, which in our present conversation has been handled merely in outline.

B. That sounds attractive. I confess I breathe more freely in the open air of psychology, than while threading those tenebrous and tortuous passages in the bowels of matter, along which you have chosen to conduct the inquiry. I feel sure I could meet you in the daylight.

P. Out with it, Biatas! I see you have some terrible doubt or objection *in petto*, which only a little psychology can resolve. What is it?

B. Well, Philophron, it is this. Experience tells us, even in cases where we have had the clearest sense of freedom in choosing, that the strongest motive has been the real determinant of our choice. Taking the *ego* to mean the concrete agent concerned in the selection, what really and truly determines the choice is the strongest motive, whatever it may be; and the concrete agent has no power to counteract it. Whenever an excessively powerful motive is brought into play, say, for instance, the mere thought of brandy to a confirmed drunkard, the concrete agent is enslaved to it. Observe. The difficulty which this offers to your theory is, that, while on your grounds the concrete agent concerned is free, the whole action being cerebral, it nevertheless possesses no power of selection, seeing that its selection is already determined inevitably, notwithstanding that it is self-determined from within, not from without. In other words, if freedom is what you describe, it includes cases of the strictest compulsion and constraint, cases in which it is identical with constraint, and therefore in contradiction with itself. You merely describe actions as free, which a plain man on grounds of experience describes as constrained.

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P. The answer is simple, Biatas. In the case of volition, we must first of all be careful to see what precisely we include in the organ or organs performing the selection, since it is the action of organs external to these, which, according to our definition, hinders the freedom of volition in the organs which are its agent.

B. True. But in the case now taken as an instance, the organ possessing the thought of brandy is clearly a part of the organ which is the agent of the volition; since otherwise the thought of brandy would not be a motive, would not be a part of the things between which the choice is made. And yet this motive acts as an inevitable determinant, which the whole organ concerned has no power to resist.

P. Do you mean no power to resist, or no power sufficient to overcome.

B. I certainly meant no power to resist.

P. In that case there is no counteracting motive; consequently no choice, and no sense of freedom. The action is not a volition, and may very well be constrained without endangering my position. It is merely a case of one action, which is attended by a feeling, overpowering another action and suppressing the feeling which attends it. The one action is external to the other, and no action of choice mediates between them.

B. Perhaps I ought to restrict my assertion to mean only no power sufficient to overcome. This is quite enough for my purpose.

P. I don't see that, Biatas. In every case of choice, one motive must be chosen and the rest dismissed. The brandy, in our instance, is the motive chosen. The action of choice is the trial of its strength against that of others. How does this infringe the freedom of the choice as we have defined it?

B. Well, if one motive is really the strongest, the fact that the trial which shows it to be so is called choosing, and is attended with the sense of freedom, does not rob it of its power of determining the choice.

P. The question, Biatas, is not as to the relative power of motives, but as to the freedom of the trial of them. In every choice, if I may repeat the remark, some motive must prove to be the strongest. Freedom means, that the trial is unhindered from without, not that one motive is no stronger than another. Neither is volition a power of resisting the strongest motive, which would reduce it to the rank of a motive itself.

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B. Then you grant, that the strongest motive actually determines the choice.

P. It is the most powerful contributory to the result of the choice, but it does not hinder the action of choosing. A heavy weight in one scale of a balance contributes with a lighter weight in the opposite scale to determine the rapidity of the fall; but it does not hinder the action of weighing. The weights in this illustration correspond to the parts of the organ which support the motives, and the scales to that part of it which chooses between them; only we must remember, that, in volition, the parts which correspond respectively to the scales and the weights are in organic connexion with one another, and make parts of a living whole.

B. Does that make much difference?

P. I think it is of the greatest importance. It includes, in general terms, the whole distance between the mechanical freedom of a pair of scales and the moral freedom of a human being. In the former we can easily discriminate between the scales and the weights. But in the latter, how do you discriminate, Biatas, between the organs performing the selection and the organs possessing the feelings which are the motives?

B. Nay, Philophron, I leave that to you. I fear, whatever I might say, you would come down upon me with some hair-splitting alternative or other.

P. Remember the alternative with which you came down upon me, Biatas, at the beginning of our conversation. Well, if I am to venture, all I say is, be merciful with your weapons of offence, considering the obscurity of the subject.

B. Obscurity, my dear Philophron, is just what you rejoice in. I believe you flatter yourself you see best in the dark.

P. Certainly better without the will-o-the-wisp of an hypothesis. But here we are in Psychology, and the whole ground swarms with them.

B. Proceed, then, Philophron, in your own way to discriminate, in the total action of choice, the part which belongs to the act of choosing from the part which belongs to the motives chosen from.

P. I will begin with a volition of the simplest kind, attention. In attending to a sensation, say a flash of light, we re-act on the organ which either receives the presentation or continues it as a representation. There is, of course, prior to this, some re-action of the organ of sensation on the stimulus from without, which conditions the sensation. But in attention there is a further re-action of some inner organ

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on the organ either of sensation or representation. There is also selection in it; for we discriminate the sensation or its representation from all others, wishing to retain it in consciousness for a time.

B. I find it difficult to picture the mode of the re-action you speak of.

P. It is certainly difficult to picture, since it is impossible to verify by direct inspection. Nor would I maintain anything about the degree of intimacy in the connexion between the organs concerned. But I think it is clear, that the re-action of attention is a different action from that which supports the state of consciousness attended to; the one coming originally from without the sentient organism, the other from within it; and the re-action of attention being not a re-action only, but a discriminative re-action.

B. I certainly cannot picture attention as other than a discriminative re-action, exercised upon organs or parts of organs immediately attended by mere presentation or re-presentation, by other parts or other organs.

P. That is enough. We may now go to a more complex case. To follow the lead of your illustration, when an habitual drunkard balances between the thought of brandy and the various other motives which he is accustomed to review in struggling against his habit, what happens? Some organ, distinct from those supporting the various representations which are his motives, is clearly re-acting upon those other organs, and its re-action is attended and evidenced by attention to the motives and comparison of them; comparison, I mean, in respect of their greater or less desirability. This re-action, I maintain, is free, in whichever way the result may come out. The agent's coming to a decision at all, after deliberation, is evidence of his freedom. His deciding this way or that is evidence, not that he is enslaved, but that one set of motives is, for that time at least, enslaved to the other.

B. Yet we always speak of the man being the slave or master of his passions, not of the passions being enslaved to other motives.

P. That is because we speak from the point of view of our own already formed judgments, and identify the man with those classes of motives which our knowledge tells us it is desirable for him to obey, that is, with his best and permanent interests as a reasonable being; and the language is quite correct, on that avowed footing. But this cannot alter the analysis of the case, or show that he is not free in choosing to disobey them. The will taken as the *ego* engaged

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in choosing is one thing, and the will taken as the tenacity of a good purpose is another. Are you not assuming, that, if a man were really free, he would always choose right?

B. It looks like it, I confess. But you grant, do you not, that the question of overwhelming importance for a man, practically and morally, is, whether he has or has not the power to choose right?

P. I do; provided you do not thereby tacitly alter the meaning of *choosing*, but continue to mean choosing freely. A power to choose right only, and not to choose between right and wrong, would not be a power of choosing freely, because it is predetermined to a particular class of motives. A power of choosing between right and wrong is implied in a power of choosing right, unless choosing means merely being determined. Choosing implies alternatives, any one of which is possible to the choice.

B. Do you mean, that, in speaking of a power to choose right only, I am in danger of assuming that this power is determined *ab extra*, and so begging the question of freedom?

P. Yes, Biatas, I do. You are in fact making the same assumption as Tychicus, who identifies the will actuated by a sense of its best and highest interests, or by divine grace, with the will as an organ of choice; the *true ego* with the *ego* simply engaged in choosing.

B. I have no objection to that, Philophron. The indeterminists, if they speak as you allege, are merely speaking the language of compulsory determinism. They come over to our side in fact, and now we shall be two to one.

P. I grant they do so; but two prejudices will never make a reason. Their doctrine is the same, in logical principle, as that of Hobbes. Both alike make the question of freedom a question of strength between conflicting forces. The difference is, that, while he merely identifies the will with a motive, they identify it with a good motive, a power of choosing right only; and yet maintain that its choice is free, though they have destroyed its freedom as choice between alternatives.

B. Surely, if they can establish the reality of a power to choose right in man, they will have proved all they really care for.

P. But not all they profess to care for, in arguing for free-will. Power is logically pre-supposed in power of choosing, but not identical with it. In other words, power is not identical with freedom. A power of choosing right only, and not wrong, is a power already determined to one of two alternatives, and therefore is no longer a power of choosing

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between them. It is no more than simple, though determinate, power. How say you? A prisoner, suppose, is liberated from confinement, and has the prison-door shut behind him. Is he free to leave the prison, or not?

B. Free, by all means.

P. Wrong, palpably wrong, Biatas. He is free to go anywhere else, but he is compelled to leave the prison. This he has the *power* but not the *freedom* of leaving. He is not free to leave, unless he is also free to remain, which in the case imagined he is not. His choice is already determined to one of the alternatives supposed. Apply this to the argument of the indeterminists about choosing right only, and their error will be manifest.

B. I grant they have no business to identify choosing with choosing right exclusively. But how does that touch Hobbes, who does not maintain freedom of will, and who surely makes no special class of motives the *differentia* of the *ego?*

P. At the same place where he defines freedom, he also defines the will as the last appetite in deliberating, thus identifying what is commonly taken as the choosing agent with the result immediately determined by his action, that is, with the motive chosen. This plainly begs the question of freedom as he himself defines it. Instead of taking the will to mean the agent engaged in volition, he takes it to mean the last, that is, the strongest motive of those chosen from. Thus motives become his real agents.

B. Well, Philophron, I see your point. The analysis of the process of choice is one thing, and the great practical question, how we are enabled to exercise choice aright, is another. *Freedom* designates one thing, when applied simply to the process of choosing, namely, freedom of the agent actually choosing from external constraint, and another thing when said of the true self, the man defined by the true purpose of his creation. In the latter application, it means the freedom of one class of motives from the power of other motives, both being internal to the choosing agent. You object, and I think rightly, to my assuming that freedom of choice means a power to choose the good which is not also a power to choose the evil. But now tell me, Philophron, on your view of free-will, what other guarantee there is of a right choice being made, than this very assumption which you object to?

P. The sense of responsibility in the choosing or re-active agent, which quickens his perception of the comparative desirability of motives. The organic re-action upon motives,

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in which choosing consists, does more than merely register their comparative desirability, as if they were dead weights in a balance; it actively deals with them, vivifying this, obliterating that, connecting one with another, and finally fixing on one to the exclusion of the rest. Consider what happens in quite simple cases of attention, when, for instance, some former event having been recalled in memory, its details come out one by one into consciousness, owing to attention being directed upon it. Attention is acting and perceiving at once, and in the closest union. They are distinct but inseparable elements of it. And the same is true of choice generally, of which attention is but the simplest instance; the energy of the re-action partly conditions how much we shall see in the object.

B. And this dealing of the re-active power with the organs which support the representations of ends or motives chosen from, justifies, I suppose, in your view, the favourite dictum of believers in free-will, that the man makes the motive rather than the motive the man. The decisive determination comes, you think, from the re-active part of the organ.

P. Exactly so. But I have not yet exhausted the whole function of the re-active power. In complex cases, it not only deals with motives in the way I have described, but it also consciously criticises its own dealing with them. The re-active agent is conscious of its own re-action, that is to say, is conscious as a *person* is conscious. In making a decision under the sense of responsibility, he passes in review all his former experience of similar cases, and then says, Shall I be really acting according to my best knowledge in directing my attention to retain this motive rather than that? He guards against self-deception in the choice of motives, rather than against ignorance of the relative consequences. His own integrity, or the accordance of his choice with his own best judgment, that is to say, his own *sincerity in choosing*, is what he aims at estimating, as well as the true relative value of the motives taken separately. The whole re-action of choice has thus two inseparable parts, attention to perceive the true relative desirability of ends or motives, and attention to perceive the true character of that first-named act of attention.

B. And do you seriously maintain, Philophron, that the guidance of such judgments as you describe is preferable to that of the direct comparison of ends in cases which are really doubtful?

P. I do; because, for one thing, cases which are really

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doubtful are the very cases upon which the direct comparison of ends stops short of throwing light. A really doubtful case is one in which the opposing motives seem to have equal weight and value. It is just here, where the direct judgment on ends *per se* is in suspense, that the specially reflective judgment on their relation to self, the judgment on our re-action upon the thoughts which are in conflict, helps us to decide. No one interrogates his conscience whether he is to perform a known duty, but when known duties seem to clash, which to perform.

B. Is it conscience, then, that you have been describing, Philophron?

P. Yes. Conscience may be described as an agent's consciousness of his own sincerity or insincerity in choosing, or, in other words, of the fidelity of his choice to his knowledge. This supposes that he can distinguish between his re-action upon motives and the action of motives upon him, a distinction which, as a matter of fact, we find that all men draw, though often ignorant of the grounds which justify it. Conscience has no place in the ethic of compulsory determinism.

B. Surely, Philophron, you forget that the choice or rejection of the end judged as best in quality and degree is accompanied by the sense of right or wrong in the choice; and this fact we fully recognise.

P. A sense of right and wrong which is founded merely on a judgment of the relative desirability of ends is as illusory as a sense of freedom founded on ignorance of what will prove the strongest determinant. Consider, Biatas; if there is no real re-active and choosing agent, there can be no action which is free, consequently no action for which the agent deserves praise or blame, or can in any way feel himself responsible. There is only action which at the most is expedient or inexpedient, if even that, seeing that it cannot be brought home to the agent as *his action*, notwithstanding that *he reaps* the fruits of it. Your agent exists for one purpose, but not for the other; he exists to suffer and enjoy, but not to choose and act. His motives act, and he takes the consequences.

B. Now, Philophron, I have you. Yes, you are caught in your own net. Your agent acts, you say, under a sense of the importance of the consequences of his actions, which you call the sense of responsibility; he acts, therefore, from a motive which is the determinant of his action; and all such action is, by your own contention, unfree, and not capable of being called either right or wrong.

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P. It is true, Biatas, that the sense of responsibility may be called a motive, meaning thereby a motive power; but it is not a motive in the sense in which we have been using the term. It is not any one of the motives chosen from, when a choice is being made, but belongs to the re-action, in which choosing consists, as part of its intrinsic character. Its operation is to sharpen the mental vision in reviewing experience, and to brace the energy of choosing according to its verdict.

B. Still, mediately and secondarily, its effect is to make one of the motives chosen from preponderate over another.

P. Certainly. But this effect is due to the re-active part of the whole process of choice, not to the action of the motives which call that re-action out. That there is motive power in the re-active part of the whole organ concerned is just what I have been maintaining.

B. You have escaped me, I confess. But another objection occurs to me which I think you will not so easily elude.

P. What mare's nest now, Biatas?

B. Don't be too sure of that, Philophron. I allow you have split the hair *motive* very neatly. But don't be too confident about the next. I am going to allege words of your own, which can hardly bear two meanings. You have spoken of conscience comparing a man's proposed choice with his own best knowledge, his own best judgment. In that word *best* you have begged the whole question at issue.

P. I don't see how.

B. Why you mean of course a true judgment or knowledge of what is best; that is, of the relative desirability of ends or motives. Where else can a true judgment be obtained? You have included in your "best judgment" the very thing which you profess to contrast with it, judgment of objective desirability. You will not surely endow conscience with an intuitive perception of right and wrong, an *a priori* idea of it?

P. Certainly not. I reject this part of the indeterminist's system (when it is made a part of it) equally with his denial of the law of uniformity. But to come to your objection. It does not follow, because the judgment of experience, to which choice ought to conform, is a judgment of the relative desirability of ends or motives, which I grant it is,—it does not, I say, follow from this, that the greater desirability of the end affirmed by the judgment is the reason why choice ought to conform to it. The rightness of the choice lies in its conformity to the judgment of experience, not in the

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conformity of that judgment to the facts. Judgments of conscience are judgments of the first-named conformity, that is, are judgments of what *ought* to be chosen. Judgments of experience, which are instances of the last-named conformity, are but *data* for judgments of conscience.

B. I grant that this ingeniously saves the logical consistency of your theory; still it seems to me a subtilty which is next door to an absurdity. Suppose we both admit that honesty is the best policy; then I say that honesty is right because it *is* the best policy, and you that it is right because *we know* it to be the best policy. What other difference is there between us?

P. This subtil difference at the foundation of ethical theory, which, subtil as it is, you will not be able to obliterate, becomes an immense one in the working out, and consequently in the influence, whatever it may be, which the theory exerts upon practice. The one principle commits ethic to give the first place in its consideration to the duty, the other to the happiness, of the agent; the one speaks of a moral law, a law of liberty, discoverable by self-examination, the other of satisfactions to be secured, and their opposites avoided, by prudent conduct.

B. And yet, Philophron, if, as I certainly hold, and as I think you also admit, both lines practically converge, and in the long run coincide, at least ideally; if you are really seeking happiness in the guise of duty, and I duty in the guise of happiness; in short, if both pursuits are inevitably and closely interlocked with each other; in what, I pray you, does the special advantage of your way over mine consist?

P. Well, for one thing, in this, that supposing equal energy of will actually to choose what is judged best, my method requires the closer attention to experience, in the form in which it has really taken place, by the agent who is to choose in accordance with it. I mean that, in virtue of the self-examination which we have spoken of, a man will be better able to distinguish between real and apparent good, and between real and apparent evil; while at the same time the organ employed will gain strength by exercise, and continually attain to new degrees of discriminative power. It will thus have its experience incorporated, as it were, with itself; new insight and greater strength will be acquired as it advances, and acquired together; there will be a living and continuous development. Whereas on your theory experience will tend to take the form of a vast mass of case-law, into analogy with which every new case as it arises

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will have to be brought; living progress will be fettered by tradition, and, if maintained at all, maintained only at the price of repeatedly breaking with the past.

B. Possibly there may be something in that; at least if morality is, after all, different from legalism.

P. Consider this also. We have supposed the energy of choosing what is judged best to be equal in the two cases. But is it in fact likely to be so? Of course I speak only of those who are directly or indirectly influenced by theory, but their number is by no means insignificant. Strength and firmness of will, steadily to do what we know or think to be best or right, perpetually to repeat the choice of the good, whenever the Siren voice invites to the opposite, is admitted on all hands to be the practical desideratum. Doing, not knowing, is the point. Now it is just this point to which the free-will theory calls attention, by speaking of the reality of the re-acting agent, of freedom, of conscience, of responsibility. Granted that theory will not create energy; at least it may insist on the need for it. Right practice is one thing, a true theory of practice is another. But this can never make a wrong theory as favourable to right practice as the true one.

B. I own it is new to me to assign the question of free-will so central a place in ethic. I have been used to regard it rather as a logical plaything or intellectual puzzle.

P. The logomachies of the indeterminists naturally lead to that view. They see the importance of the fact, but they have no way of defending it save by logical abstractions. What position, then, do the compulsory determinists take up? They rest their denial on the very same abstractions. Thus plain men are driven to cry, Stop your contention,—*solvitur ambulando.*

B. And you think we can never be satisfied with that solution.

P. It were treason to philosophy to think it. Ethic has no existence as a theory until this question is settled, for it is one which relates to the nature, and indeed the very existence, of the agent about which ethic treats. To despair of settling this question logically, is to despair of ethic altogether.

B. But why may it not be finally settled in favour of the compulsory determinists?

P. Because compulsory determinism, as I have tried to show, theoretically destroys the existence of the agent about which ethic treats.

B. Then decide for Tychicus and indeterminism.

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P. They do the same thing, by ascribing an impossible action to an impossible abstraction.

B. Whereas your solution is, that freedom of choice is compatible with uniform law in choosing, provided that the choice is the action of a real agent?

P. Precisely so, Biatas; you define my position to a nicety. And now, I hope, you see why I countenanced, as you called it, the opinion of Tychicus as to the fact of freedom. The indeterminists deserve our warmest thanks for their uncompromising advocacy of the fact of free-will, notwithstanding the fallacies by which they explain it. Their fallacies have at least been used in the sacred cause of moral freedom; yours, Biatas, on the other hand, to prove it an illusion. There is no *sursum corda* in compulsion. Yours is a theory of despair.

B. At least, then, I am bound to hope you may be right. But now, Philophron, let us be serious. Tell me what logical legerdemain it is, which you have used for the nonce to force all my ethical as well as psychological positions; for legerdemain of some sort or other I am strongly of opinion it is.

P. I have secretly propitiated the god Terminus.

B. Nonsense, Philophron, explain your meaning.

P. I mean that you have been defending an unscientific frontier, and that I have rectified it, that is all. Adopt it, and then we will defend it together.

B. What frontier, Philophron?

P. The boundary between Ethic and Metaphysic, the line which marks off that part of analytic philosophy which deals with practice, from the encircling domain which is occupied by analysis of the *de facto*; in short the *locus* of the difference between *is* and *ought*.

B. How can I possibly have confused so plain a delimitation as that?

P. Plain, you call it? True, it is plain enough when described, as I have just described it, by its gross results; but to assign its precise whereabouts in experience, by naming the two kinds of states of consciousness between which it falls, is by no means so easy.

B. What mistake have I made with it?

P. You have included a large slice of the *de facto* under the *de jure*.

B. How so, Philophron? Don't be enigmatical.

P. You have assumed that all kinds of satisfactions are the objects of ethic, instead of those kinds only which are also objects of desire, and therefore pre-suppose choice.

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B. Is not that the old distinction of which indeterminists are so fond, between pleasure and moral good?

P. No, Biatas, it is not that futile and clumsy distinction; as if there were no moral pleasures. All satisfactions, all pleasures, and their opposites, taken simply with regard to their quality as kinds of feeling, belong wholly to what is *de facto*; differences between them, merely in this respect, offer no ground of distinguishing between *is* and *ought*, the *de facto* and the *de jure*.

B. Then where can you possibly draw the line?

P. Between feelings taken simply as such and such qualities of feeling, and the same feelings as objects of conscious desire. Wherever the re-action of the conscious agent begins, which it does in the form of attention to a feeling as having interest for itself, there ethic begins; for there is the beginning of some action of volition or choice, which forms character.

B. Do you mean that good and evil, pleasure and pain, satisfactions and their reverse, are not the objects of ethic?

P. Not when taken simply. They are then merely matters of fact, just like qualities which are indifferent and give neither pleasure nor pain, if any such there be. It is as objects of desire or aversion, that they are objects of ethic. The boundary falls between simply having feelings and desiring them, between feeling them and preferring to feel them rather than not, or rather than something else. And in what is painful, between having a feeling and desiring not to have it. The actual knowledge, or test, of a feeling's being pleasurable or painful, is the fact of our desiring or shrinking from it. It is in this that our knowledge of it as good or evil consists. The moment of desire is the moment of experience in practical matters; and in all philosophy, whether of practice or speculation, experience is the sole ultimate basis of all theory. Consequently, in ethic, it is equally true that the good is that which we desire, as that we desire that which is good. The action which is choice includes both these elements, and you have adverted only to the latter. Your ethic makes enjoyment alone the end of moral action. Accordingly it places its criterion solely in a knowledge of the relative desirability of different kinds of enjoyment or satisfaction. And yet the very highest ideal, if it excludes the imperative impulse of the agent to realise it, which it does if it excludes the element of desire, is a mere piece of moral luxury or æsthetic upholstery.

B. There is perhaps some little one-sidedness there. But

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how do free-will determinists get over the difficulty? Where do you place your criterion?

P. We make the desire of good the object to be judged in ethic, and the right desiring of good the end of moral action. That is to say, we take experience in the larger sense, including both its elements. And accordingly we place our criterion in the sincerity with which we judge this desire. Experience interpreted with sincerity, as it includes both elements united in its judgments, so it leads to both elements united in its results. We hold that, interpreted with sincerity, experience is a sufficient guide to righteousness and joy, always of course supposing that we have the energy to obey its guidance.

B. I cannot deny your conclusions, Philophron, and indeed they seem to open a bright prospect for humanity; but yet I have difficulty in grasping the premisses from which, as you state them, they seem inevitably to flow.

P. You grant me, perhaps, quite as much as I am entitled to expect, in not rejecting my conclusions. Some day, let me hope, you will be prepared to admit the truth of the analysis which is their real foundation.

B. I wish it may be so, with all my heart.

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IV.—RESEARCH.

MOTOR SENSATIONS ON THE SKIN.

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Our first problem in undertaking the following lines of research, which have now been carried on almost continuously for eighteen months, and which so far as we know are mainly new, was to devise a suitable apparatus. To this end a revolving drum of the Ludwig order, with Foucault regulator, capable of more than the ordinary variations of speed and of strong movement, was selected from among several as a driving engine. A band connected this drum with the triple wheel P of an apparatus most of which is represented by Fig. I. in Dr. Donaldson's paper "On the Temperature-Sense" in Mind XXXIX., to which cut (p. 403), to save space, we here refer the reader. An arm six inches long, but not shown in this cut, projects to the right, to which two cogged wheels are attached (both rotated by the triple wheel P above) in such a way that, by moving the end of this arm one way, it throws the periphery of one of these lower wheels into gear with a third wheel, and, by moving the arm half an inch the other way, the second of these lower wheels is geared into the same third wheel, causing it to rotate in the opposite direction. Intermediate between the two extreme positions of the gearing arm, in which it is held slightly by its vertical elasticity, which presses a screw into a dint in the metallic support, is a position in which neither wheel is geared with the third, which therefore remains motionless, although the wheels carried on the arm continue to revolve with the drum. Thus, by moving this arm at any instant half an inch, from one extreme position to the other, the third wheel is instantly, and without the least noise or jar, made to rotate with a velocity exactly equal, as tested by many preliminary observations, in an opposite sense. To this third wheel the car described in Mind XXXIX., 403, and in most of its finer adjustments devised, by Dr. Donaldson, is attached by an endless cord passing around a wheel on a spring at the other side of the brass table of the Kinesimeter shown in Fig. I., following upon which a full description, with a representation (Fig. II.), of the car is given. But, instead of the tube T of Fig. II., another counterpoise-cup like C was used to carry the various weights. On the under side of C, buttons or points of various patterns, sizes and material, to be described later, could be fastened to obtain the different kinds of contact desired with the skin. Thus the button under the one or the other arm of the

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counterpoise-cup, according to the direction of the motion (the weights being drawn and not pushed over the skin), could be brought into contact with any portion of the body, as the brass tablet which carries the car is wide and high enough to be placed over the body extended on a table with its legs on each side, while if, as in most cases, the arm was tested, the support S (Fig. I.) was used. By this device it is possible to give a constant and uniform movement, the rate of which can be varied within even wider intervals than that of the drum, while the direction of this is at any time reversible, and the weight which determines the amount of pressure on the skin, with the size of the point or surface of contact, can be regulated at will.

The further devices of the apparatus (which is furnished by the mechanist of the University) may here be briefly described, and by referring to Dr. Donaldson's cuts supplemented by his description the whole will be readily understood. A pointer attached to the car passes over the scale at L (Fig. I.), where the rate is read as determined by the rapidity given to the drum. On the swinging arm near C (Fig. II.) is fastened another vertical index, which ascends above the table T (Fig. I.) and records on smoked paper clamped to a vertical and adjustable brass plate standing parallel and near to the endless cord on the other side of L. By this means all irregularities in the surface of the dermal tract traversed by the button under the cup are exactly written on the smoked paper, which can be raised and lowered by a screw behind. This is found convenient especially when heavy weights are used or when unevennesses in the surface of the skin need to be noted as affecting the uniformity of the motor and other sensations.

Again, attached to each of the swinging arms, somewhat nearer their axis, are two vertical wires jointed at the arm and sliding in grooves held by a clamp (not shown in Fig. II.) to the upper part of R. At the level of the top of R, these are bent in a horizontal direction over L (Fig. I.) and carry two small spring clamp-grooves holding long needles, one of which dips, as either cup is depressed, into a trough of mercury, eight inches long, parallel with the scale and just outside it. By this means the instant the button under C falls on the skin electrical connexion is made, whereby a Hipp chronoscope is started, to be stopped by the finger of the percipient which breaks connexion by depressing a key the instant the observation is completed. This is needed only when the rate of motion is so rapid that counting half seconds by a metronome is not sufficiently accurate.

This instrument is, we believe, the first realisation of the kind of apparatus postulated by Czermak in a very vague and obscure yet suggestive paper as early as 1857,[1] and now practicable only with the aid of the kymographic clockwork and regulator.

[1] See his *Schriften* I. i., p. 417: "Ideen zu einer Lehre vom Zeitsinn".

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I. *Error in Judgment of Direction of Motion on the Skin.* In making these observations the part of the body on which the experiments were to be made—namely, the back, more commonly the leg, or much the most frequently the fore-arm—was placed on the support in a fixed position under the car, the eyes of the percipient being closed. The operator set the apparatus in motion and also a metronome, and, after the *avertissement* "ready," dropped the weight gently and noiselessly into the cup, which thereby pressed the button upon the arm. As soon as the percipient had determined whether the motion was up or down the limb, or (more generically) to or from the head, he said *plus* for up and *minus* for down. The time and judgment were recorded by the operator, and subsequent trials in the same way and over the same dermal tract, sometimes to the number of twenty or thirty in a sitting, were made till signs of fatigue began to appear. The following Table gives the gross results of many observations.

TABLE I.

Persons.	No. of Observations.	No. of Errors.	Errors in per ct.	+ J −	− J +	Ratio of last two columns.
H. H. D. - - -	2057	434	21	73	361	1 : 4·6
W. N. - - - -	1000	166	16	78	88	1 : 1·1
J. V. D. - - -	774	6	0·7	0	6	
G. S. H. - - -	515	68	13	29	34	1 : 1·4
C. D. - - - -	264	11	4	0	11	
H. T. - - - -	144	6	6	2	4	1 : 2
Total—	4754	691	14 +	182	504	1 : 2·7 +

The headings of the fifth and sixth columns mean respectively number of times when motion up the limb was judged to be motion down it, and *vice versâ*. In this Table no account of rates of motion, of weights or of the surfaces of skin tested is taken. For each of these conditions, so far as they were explored in our research, as well as for all in the aggregate, the following law appears. We are more likely when in doubt to judge motion on the surface of the limbs to be up rather than down their axis. On the breast, shoulderblades and back between them, the tendency was to judge movement to be towards the head although these parts were less fully tested. Man's experiences with sweat and rain, especially without or before clothing, must have made him more familiar with downward than with upward movement on the surface of his body, and the latter, as being more apt to be caused by living things—insects, parasites, &c.—or by aggressive outward movements with the limbs, would be more likely to attract his attention. Movement also against the direction of the hairs, "which strokes the wrong way," would for anatomical reasons seem at first view

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to be a stronger stimulus than motion coinciding with their direction. Mainly for this reason probably, *minus* or "from" movement often failed to be felt with the lighter weights which in the opposite direction caused a distinct sensation. Whether the general law above stated holds for all parts of the surface of the limbs cannot be inferred on the basis of our observations, which were made mainly on the upper and inner fore-arm and on the middle of the upper thigh, but it seems not unlikely that it may for most of it.

A few general remarks may be appended to this section. The percipient is quite prone, unconsciously and with the best intentions, to judge direction from accessories rather than from the simple elements of motor impressions. If there have been several consecutive judgments in one direction, he expects the other direction and often judges on general grounds without laboriously fixating the sensation. Even an inadvertent noise of the hand in adjusting or a squeaking of the apparatus is liable to enter as a factor of judgment. Again, when four or five consecutive movements are given in one direction, the time of the first and last judgment or judgments is apt to be longer than of the intermediate ones; also, after such a series is given, the first movement in the opposite direction is often wrongly judged. Thus a more frequent alternation of direction was found to constitute a better condition for correct judgment. The sense of motion is strongest during the first few seconds and slowly and irregularly diminishes with time. The fall of the button on the skin must not be too forcible or the direction of movement can be told by the swing inward toward the axis of the button, which, as it depresses the skin, stretches it slightly before it begins to slip over it. This sense of stretching, which seems from repeated notes to that effect in our protocol, to be a possible factor in making the skin over muscles more susceptible to motor impressions than skin immediately over bones, is the sensation which comes immediately after that of contact. It can be somewhat reduced by rubbing vaseline over the surface of the skin tested, but it does not necessarily interfere with the exclusive fixation of other elements of impression of motion. Then comes an indeterminate sense of motion, of which more is said later, sometimes preceding any judgment or even impression of direction. The first impression of direction is quite likely in all cases to be that the movement is upward even when it is downward, a reversal of this impression and sometimes an alternation of impressions leading at length to a correct judgment. This alternation has repeatedly led us to anatomical conjectures. Two nerve-fibres, *a* and *b*, could, *e.g.*, near their tips bend back and hook into each other in such a way that there might be a particular spot on the skin where a straight line would first stimulate the body of *a*, then the tip of *b*, then the tip of *a*, and finally the body of *b*. In almost every possible motion in this direction *a* is

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stimulated before *b*, and we have not learned to differentiate sensations finely enough, or dermal experience has not sufficiently educated this one spot, to rectify the general rule.

All the observations in this section are concerned with only two opposite directions, and those parallel with the axis of the body or limb. It may be added however that, with an apparatus to be described later, observations are being conducted involving discriminative judgments of any horizontal direction as a function of time, rate of motion and dermal area, by a drop-cup and button like the above which can be set by the operator to move out from a central starting-point along any radius. Enough results have already been reached to show not only the great complexity and indefiniteness of the sensations on which a judgment of the direction of motion over the skin is based, but the great inaccuracy of such judgments if not supplemented by muscular innervation; from which it seems not unlikely certain inferences to retinal action may be drawn.

II. *Time-relations of Judgments of Motion on the Skin.* The following Table is based on the same observations as Table I., the only difference being that a number of series available for direction and not for time are excluded, and a few new ones added. It is therefore also a gross Table in which several conditions of rate, weight and place are undiscriminated, with a predominance as before of values for the inside of the fore-arm. These variables, if we except rate, which is but little varied, cause, as will be seen later, no very high average error of time.

TABLE II.

Persons tested.	Number of single observations.	Average time * of all judgments.	Average time of judging + movements.	Average time of judging − movements.	Average time of correct judgments.	Average time of wrong judgments.	Average time of judging − to be + movement.	Average time of judging + to be − movement.
H. H. D.	1956	7·8	6·1	9·4	7·0	10·3	11·0	6·6
W. N.	985	4·09	4·4	3·9	3·3	7·5	7·4	7·9
J. V. D.	744	2·6	2·4	2·7	2·5	5	5	0
G. S. H.	416	3·8	3·9	3·7	3·4	6·8	7·5	5·8
C. D.	263	1·80	1·54	2·1	1·72	4	4	0
H. T.	144	4·42	4·36	4·44	4·37	5·5	6	4·5

* All the above times are in seconds.

The most uniform conditions of the above Table were with J. V. D., upon whom all observations were taken in groups of either eight or ten per sitting, with an equal number each way, on the volar fore-arm, and with very slight variation of other conditions. The least uniform conditions were those with W. N. From this Table it appears (1) that a judgment of motion down the limb

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takes more time than that of an upward movement; (2) that the time for a wrong judgment is much greater than—sometimes more than twice as great as—the time needed for a correct judgment; (3) that of the two errors it takes longer to judge *minus* to be *plus* movement than the reverse. Why it takes so long to mistake downward for upward movement, when that error is far more common than the opposite one and when also we are so likely to get an early though faint *plus* impression from all motions, it is not easy to say. That an erroneous judgment is given after so prolonged an impression, may be said to show the strength of the tendency. If, as would appear, *minus* movements are a feebler stimulus than *plus* ones, something might be due to less sharpness of attention; but then why should these verdicts be so much longer than correct *minus* judgments? The only explanation we can suggest is, that in these longest of all judgments the sense of time past since the movement began shrinks in consciousness faster than the sensory after-image arising from the moving point fades, so that there comes a moment when we interpret time past as vividness of seemingly shorter impression, and the more vivid the sense of motion, other things being equal, the more like a *plus* motion it seems. Beyond a certain length of time, varying with many conditions, this tendency, if such it be, would be corrected by a sense of distance and direction between the remembered spot where the point first touched the skin and its present position. Again, after all allowances are made for distracted attention, we believe that the short time of correct as compared with wrong judgments shows what has been often remarked in the course of this experimentation, *viz.*, that a too laboured fixation of attention confuses a more rapid and instinctive divination of the direction of motion, which is apt to be correct, though with the feeblest assurance of correctness, before the attention feels itself fully focussed and ready for its more self-conscious and artificial activity.

In another Table, which it is not needful to reproduce in full, the above results were worked out with each group of observations for one day taken as a unit, and these units averaged. This Table, when calculated for an equal number of similar observations, gives as the percentage by which the time of judgment of a *minus* motion exceeds that of a *plus*—

For H. H. D.,	24	per ct.
„ W. N.,	5	„
„ J. V. D.,	5	„
„ G. S. H.,	9	„
„ C. D.,	30	„
„ H. T.,	1	„

Here, where not single observations but different diurnal verdicts and states are aggregated, even W. N. and G. S. H. fall under the general rule that *minus* judgments require the longer

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time. The results were once more tabulated by grouping together all experiments on the back, upper and lower fore-arm, ball of thumb, shin and thigh respectively, to see if the general law that *minus* judgments took longer than *plus* had local exceptions or was peculiarly great for any of these parts; but, although with three of our subjects many observations were taken on all these parts, the excess of *minus* judgments was so uniform that we can infer no such difference, and we believe it to be a general law valid in about the same degree for all these parts.

III. *Effect of varying the Rate of Movement or the Distance which must be traversed before the Judgment is made.* We now began to fix our variables. The following Table is accordingly made on one person H. H. D., with a constant weight of 15 grammes, with a circular metallic point 2 millimetres in diameter, and on a definite part of the volar surface of the right arm so arranged that the point traverses the same tract in moving up or down and in successive sittings.

TABLE III.

Rate per second in centimetres.	Total number of judgments.	Distance in cms. before a judgment was made.	Number of correct + judgments.	Distance before a judgment was made.	Number of correct − judgments.	Distance before a judgment was made.
·012	37	·5172	20	·381	4	·733
·034	55	·7888	18	·690	7	·707
·035	65	·5635	19	·427	13	·731
·044	34	·8492	12	·871	10	·836
·046	88	·6624	29	·587	27	·903
·050	11	·6050	4	·675	3	·650
·078	95	·7254	24	·577	30	·657
·086	87	·5782	33	·559	29	·498
·178	40	·5696	14	·569	13	·480
·200	27		8	·640	2	·300
·200	50		19	·680	11	·920
·200	50		23	·560	10	·580
·200	46	·7600	22	·660	8	1·060
·200	18		5	·880	5	1·080
·200	26		13	·820	11	1·340
·200	26		12	·500	6	·800
·200	26		11	·400	11	·500
·850	43	·4760	14	·425	14	·586
1·500	30	·5100	10	·570	6	·885

The most obvious result from this Table is that while the discriminative sensibility for compass-points on this part of the arm, measured longitudinally, could rarely be brought below 25 mms., even in single observations, motion is recognised and its direction discriminated at an average distance of between 6 and

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7 mms. The next result is that, while the rate of motion increases more than one-hundred-and-twenty-fold and the time of judgment varies in proportion, the distance traversed at these great differences of rate remains relatively uniform. We may therefore assert the existence of smaller motor "sensory circles" (under the conditions of this Table) inside Weber's discriminative circles, with a longitudinal diameter about only $\frac{1}{4}$th as great, and with a transverse diameter yet to be reported on. Down to the lower limit of velocity here used it would seem that the after-image of the sensation caused by the moving point from the beginning persisted in consciousness as vividly, or at least as effectively, for 40 seconds as it does for $\frac{4}{10}$ths of 1 sec., or else that the two are judged in different ways. That these results are valid for other individuals and other dermal areas, many incidental observations lead us to think. The last four columns of the above Table, which is based mainly on experimental data entirely different from those used in the previous Tables, are added to show how distinctly the law of the increased time for *minus* judgments holds here. It should also be added that in these observations the time for wrong judgments does not exceed but barely falls short of the time for correct judgments. This is, without doubt, due to more rigorous conditions of experimentation employed here. Where the percipient is very eager to judge quickly on a faint assurance of correctness, as was the case here, the quick judgments are apt to be the wrong ones and the number of errors to be great—as can be readily inferred. We have here then only a different source of error from that discussed above, which was constantly distinguished from it during experimentation. Finally the important generalisation is valid here, as in earlier experiments, that the variations in the time taken for a judgment are mainly based on variations in the *minus* judgment. Computing from the above Table the average error both ways for *plus* and then for *minus* judgments, it is found to be nearly $1\frac{3}{4}$ths greater for the latter than for the former judgments.

IV. *Reproductions of Rate and Distance with the Other Hand.* For the study of this problem another apparatus was constructed, which consisted of a heavy brass table, 20 cms. high, 26 long, and 15 thick—large enough in fact to stand over a second revolving drum placed in a horizontal position. A slit 3 × 17 cms. was cut out through the middle of this table, and through it a pencil, sliding in a frame and carried by a small car 6 cms. long running in grooves on each side the slit, was gently pressed by weights down upon the paper of the revolving drum beneath. As the points of the apparatus previously described traversed, *e.g.*, the left arm, the right hand resting upon the brass table drew the almost frictionless car by a brass upright rod toward the body at the same rate as the point seemed to move over the skin. Then the lower horizontal drum was allowed to revolve till the

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record was hidden from sight and another made; great care being taken that the person recording should have no cue whatever except the tactile sense of distance traversed on the arm, and should have no visual knowledge of his own previous records. As the latter were made on millimetre paper they were easily tabulated. The following Table is based on fifty-two such observations, on the same spot of the left fore-arm of the same person, with the uniform conditions of rate 5 mms. per second, weight 75 grms., diameter of point of on the skin 12 mms.

TABLE IV.

Actual distance traversed.	Average distance recorded.	Actual distance traversed.	Average distance recorded.
−		+	
10 cms.	9·2	10 cms.	9·7
8	6·18	8	7·3
4	4·16	4	6·01
2	2·27	2	3·20

The results here, as in other Tables which need not be given for each of four other persons who recorded, were twofold: (1) that *plus* movements seem, as judged from the record, larger than equal *minus* movements; (2) that short distances are relatively longer in reproduction than long distances.

An effort was made to determine the influence of rate on reproduced distances as follows. The point was allowed to traverse the same spot, the same distance and direction four times; then the rate was accelerated for four more records, again accelerated still more, and finally retarded to the original rate; the limits being in these cases one cm. in ten and in one and a fourth seconds respectively, the record being traced simultaneously and with closed eyes. The results of nearly two hundred experiments of this kind show in general (1) that with fast rates distances are reproduced relatively shorter than when the same distance is traversed slowly; (2) that our judgment of such distances themselves and also of changes of rate is liable to great error and to great variations even in successive experiments at the same sitting with uniform conditions. The interval between two points touched on the skin (but not of course seen) can be reproduced with greater uniformity and accuracy than if the entire intermediate tract is traversed. Some individuals also constantly reproduce these dermal intervals larger than they are; and other individuals as constantly smaller. It is of course very hard for the attention to keep in view at the same time the sensation on the arm and a uniform motion by the hands, but practice aids much in this respect. The process seems to be as follows. We catch the rate almost at the first and start the hand at the rate judged. Once started the hand is not free to vary its rate much, but we instinctively strive mainly to keep up

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a uniform motion of the pencil, and thus within large limits we are satisfied with any initiated rate of pencil movement. An impression of the rate of movement commonly precedes a sense of its direction. This seems also to illustrate how much more dependent we are for accuracy of rate and distance of motion upon those active processes which for want of a better term are called innervation than upon passive sensations. Finally, by setting the drum upon which the tracing point writes in motion, we reproduce Vierordt's curves[1] by a better method than his, a result which could, we think, hardly be obtained if we were sensitive and responsive to fine variations of rate.

V. *Motor Sensibility of Different Parts of the Body.* The following is a specimen Table of observations made with the uniform conditions of a metallic point of contact of 12 mms. diameter pressed by a weight of 75 grms. and moving at a constant rate of 2 mms. per sec.

TABLE V.

Person.	Part of body.	No. of observations.	Average distance taken before a judgment of direction was formed.
G. S. H.	Fore-arm	65	·44
	Upper-arm	68	·40
	Back	24	·85
	Shin	8	·60
	Forehead	8	·20
	Palm	22	·74
H. H. D.	Fore-arm	144	·40
	Upper-arm	104	·54
	Back	82	1·17
	Thigh	54	1·17
	Shin	26	1·80
	Palm	15	·48
	Forehead	31	·84
W. N.	Fore-arm	66	·24
	Upper-arm	32	·31
	Back	28	·49
	Shin	8	·28

It is thus plain that there is a difference in the areas needful to discriminate motion upon different parts of the dermal surface as there is difference of sensibility in discriminating compass-points, far finer though the motor sensibility is. Whether it is more or less variable than the other, and whether it varies with locality in the same manner, our data do not yet enable us to say.

VI. *Effect of Change of Pressure or Weights.*

[1] *Vom Zeitsinn*, p. 92.

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TABLE VI.

Person.	Diameter of point of contact in mms.	No. of observations.	Weight 15 grms.	Weight 45 grms.	Weight 75 grms.
J. V. D. - - - -	2	50	·56	·41	·33
„ - - - -	8	88	·74	·49	·44
„ - - - -	12	48	·49	·37	·35
W. N. - - - -	12	56	·46	·21	·16
C. D. - - - -	12	60	·54	·32	·26
H. T. - - - -	12	48	1·53	·66	·35

In the above Table the rate was constantly 2 mms. per sec. and all other conditions were uniform. It here appears, as well as from other Tables which might be given with different uniform conditions, that the time needful for judgment of direction decreases as weights increase but far more rapidly for the increment from 15 to 45 than for the equal interval from 45 to 75 grms. With regard to the effect of the size of point, the inference from the record of J. V. D. alone that the intermediate size is unfavourable for quick judgment rests on insufficient data and would, we think, hardly be borne out by fuller experimentation. Thus this question still remains for us uncertain. We can attach relatively little importance for our purpose to heavy weights whether applied to a large or a small surface. They indent and stretch the skin, modify the circulation and perhaps the nerve-action and speedily fatigue especially with slow movement. They cause considerable vertical movement in passing over the various subcutaneous tissues, yielding real and apparent variations of pressure. The fact, however, that heavy weights seem to move faster than light ones going at the same rate shows that there is a summation of extensive or of qualitative data affecting our estimates of rate. If there be such a thing as a simple motor sense in the skin at the root of our inference, it is in such cases not independent of aid from other sources. As to the size of the point, we have not yet found a size more favourable for a definite dermal tract than any other. Too small a point presses in too much and by dinting the skin acts unfavourably. Too large a point does not press evenly on all its surfaces and is apt to cause distinct sensations at its opposite edges.

VII. It was at this point that we attempted still further exclusion of variables. A favourable area on the fore-arm 10 × 2·5 cms. was measured off and its corners permanently fixed by pricking in four dots of Indian ink, that we might henceforth confine ourselves to the study and education of this tract alone. We had observed that heat-spots and especially cold-spots greatly aided our judgment of direction. The following observa-

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tions, *e.g.*, had repeatedly been made: A cold-spot of the first magnitude had been located, and a point placed at very varying distances above it had been allowed to run over it; every time in a long series of judgments the judgment of direction was made exactly when the cold-spot had been reached. This showed us that we had here to deal with a case not unlike that in which a long series of submaximal electric stimuli at length will cause a frog's muscle to contract, but before that threshold is reached another sudden and strong stimulus being applied will raise the curve of increasing excitability more steeply than it would otherwise have gone to the point of contraction. To eliminate the effect of heat-spots and cold-spots therefore, we first need a greatly enlarged map of them all over this area, by fixing the arm very steadily and running our drop-point 1 mm. wide over all its surface, as a field might be ploughed to locate the large stones. In making this cadastral survey, if in traversing it all five times heat-spots or cold-spots were identified every time, they were called of the first magnitude; if four times, of the second, &c. Having thus our map, by the aid of which we could touch or avoid any spot at will or dot them off for the day on the skin, it also seemed advisable to determine how warm metallic points must be not to stimulate cold-spots, and conversely how cold not to stimulate heat-spots. It was soon found however that these limits overlapped, *i.e.*, that an intermediate temperature of a metallic point could be so chosen that it would stimulate both heat-spots and cold-spots. We therefore had recourse to non-conducting cork points of such shape that the smoothed and rounded edge of a right-angled triangle was applied to the skin transversely to the direction of motion. Thus the sensations of temperature appeared to be entirely eliminated.

With a map of all the heat- and cold-spots over this large area before us, we now proceeded to select tracts vacant of these spots and found that, with this elimination, we still judged motion and direction within spaces far less than the average distance necessary for the discrimination of the compass-points. But we also found that, by going over the entire surface and including heat-spots and cold-spots, the spaces needful for these judgments were still less, showing thus again that the temperature-senses, with their highly saturated and probably more specific quality, are of material aid in these judgments. Cold-spots seemed more helpful in fixing locality and in judging motion than heat-spots, because of the fainter sensation and wider irradiation of the latter. We have not yet succeeded in locating pressure-points, as Blix and Goldscheider claim to have done, with sufficient definiteness for any experimentation. For this the points used by us were too large. If such points exist it will be of great interest to determine whether motion can be judged of independently of such points, on intermediate dermal spaces; although the practical difficulty of obtaining motor sensations even with

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hair-points of contact, without diffused stretching or tension of the skin, even when it is stretched for the purpose of experimentation, will not be readily overcome.

The next and most important elimination attempted was that of the hairs. This was done expressly with a view to determine whether their direction was not the cause of the greater ease in judging *plus* movements. It had been repeatedly remarked in the course of our experiments that these two opposite directions of movement over the skin gave sensations which sometimes developed almost specific differences of quality in consciousness; *minus* motion requiring not only greater weight to be distinctly felt but being thinner, smoother and more uniform. To test the effect of the hairs and their direction we first took—for four consecutive days, on an accurately marked line of the arm where hairs were numerous and pointed us the direction of the *minus* movements—records for the least time of correct *plus* and *minus* judgments under all the known favourable conditions, and averaged the time of all judgments for such directions. We then lathered and quickly shaved this portion of the arm, cutting off even all the lanugo-hairs, and afterwards soaked it till the epidermis slightly swelled, finally spreading vaseline on the surface after it was dried. All was done in a way to excite the skin as little as possible, and we were able to see with a magnifying glass that our tract was clear and that the stub of no hair projected above or even quite reached the surface of the skin. After a short rest the same experiments as before were repeated with the following results—the rate throughout being 1 mm. per sec. and the weight 10 grms.

TABLE VII.

	G. S. H.						H. H. D.					
	Number of correct judgments.		Average time in seconds.		Average time by sittings.		Number of correct judgments.		Average time.		Average time by sittings.	
	+	−	+	−	+	−	+	−	+	−	+	−
Before Shaving.	32	23	2·29	2·58	2·34	2·54	31	34	5·22	6·26	5·08	6·02
After Shaving.	48	35	1.6	2·7	2·3	2·9	65	44	5·5	7·8	5·5	8·7

So far as these figures go, they indicate not only no diminution but an increase of the difference between *plus* and *minus* time after shaving, even if we compare these results with Table II. That our method of eliminating the function of the hairs is entirely faultless or that the above figures are sufficient to be the basis of a law we are not ready to assert, but we are convinced that their direction or they themselves are not in any way the sole cause of the shorter time and greater ease of *plus* judg-

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ments, although just what is the action of our moving weights on the hair-bulbs beneath the skin or on the follicles is a physico-anatomical problem not by any means clear. The last two columns were added because here, as often before, promptness of judgment was uniformly greater on some days, and averages by days add to the value of relatively small numbers of observations.

VIII. A number of problems arose for further inquiry.

(1) Many series of records were taken to determine how long, if at all, the sense of motion preceded any impression of direction. This was done either by signaling for motion if it seemed to arise first and again for direction later, when the two were not simultaneous, as very often occurred, and then taking the average difference of time, or better by taking alternate series one for motion and the other for direction with constant place and conditions and comparing the two series. In all these observations the average error was so great that, while there is no doubt whatever that a distinct sense of motion occurs without giving any impression of direction in very many cases, it is uncertain whether the dermal area or the nature of the impression or the state of the attention is most involved. At one time it seemed that the papillary striation was a factor; but, by using a single stiff hair or whisker for the point of contact and working with a lever, it was found that drawing the end of a hair transversely across a single ridge—a distance of less than $\frac{3}{4}$mm.—was sufficient to give both motion and direction with much distinctness. Whether the direction of the striæ or their size (which may be readily compared for different parts of the body by Kollmann's method)[1] is a function, is not yet clear. That the relation between the direction of the hairs and that of the motion is involved, seems not improbable. If a single long hair was taken and twisted with a constant tension in the direction of its growth, we were not able to tell from the sensation in which direction it was twisted, but we could tell with *some* accuracy in which direction it was pulled. When our drop-weights moved slowly up or down the arm over a spot where the direction of the hairs was transverse to the direction of motion, the latter often seemed for some time to coincide with that of the hairs. In such cases, as we knew the point was moving up or down the arm, the interval between a sense of motion and a judgment of direction was of course very great. Often where ciliary effects had been reduced by shaving and papillary effects perhaps lessened by oiling, with large and polished points of contact, the sensation was repeatedly described as that of a button twirling about without transverse movement, and then twirling again in another adjacent place. This, however, seems readily accounted for by the fact that at a given moment more papillæ, hairs or sensory elements were being stimulated under the button by rubbing against the successive parts of its surface, than were being newly stimulated by its advancing or were losing stimulus

[1] *Der Tastapparat der Hand, &c.*, von Dr. A. Kollmann; Leipzig, 1883.

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at its receding edge. Though by polishing and oiling the point we had not reduced the intensity of the stimulus, we had perhaps increased its sensory effect by reducing it near to that minimal intensity, giving maximal impressions, which must exist somewhere within the degrees of slight contact that cause tickling.

(2) Incidentally, the great complexity and diversity of dermal sensations has been often and in many ways apparent. If a point be allowed to move over ten or twelve inches of dermal surface and if the weight is light, it is found that at certain spots the impression of contact is lost, and again the rate seems to change as if there were acceleration-points. If instead of weights we substitute a metallic point of a square millimetre in area, joined to the secondary coil of a Sledge inductorium, holding the other electrode in the form of a wet sponge in the hand, the experiences of its journey down the arm are manifold and vivid. For a time tickling is quite unpleasantly dominant, at other places the point seems to scratch, at others the thrilling quivering sensation familiar in electric stimulation seems dominant, while at others sharp sudden cutting pains and at still others no sensation save that of a moving point are felt. The nature of these sensations varies greatly with the strength of the stimulus, and very soon the arm in the vicinity of such application is so fatigued as to be quite worthless for experimentation for a long time. It is moreover extremely hard to sharply differentiate and identify sensations that seem to be so impacted and run together, and which language has never before been called upon to disentangle. We have a number of fragmentary records like the following. In five consecutive trips of such a point over the same tract for ten centimetres, three spots of cutting pain were identified every time, two four times, two twice, and three were observed only once. The same was the case with thrill-points, and less sharply with tickle- and acceleration-points. The identification of these sensations the next day from a dense and wide penumbra of other sensations which often obscure them has not yet been very satisfactory. No doubt, these stimuli act subdermally, and the differentiation of the sensations is in part to be explained from the grosser anatomy of the subjacent structures. We had no reason to think, however, that our stimuli were great enough to effect subcutaneous muscles. With different degrees of intensity or of fatigue, these results are greatly modified. An important point repeatedly verified was that, if these stimuli are at all strong, the time required to judge the direction of motion is longer than if the same point is used with the current turned off. As we used only currents of just sufficient strength to give quite vivid sensations, we are in doubt whether this rule would apply to feeble currents, although it seems probable that the latter would aid the judgment of direction. The effect of our currents, no doubt, was widely irradiated and somewhat distracting to the attention. It occurred to us that, by using strong wound magnets of soft iron as our points of contact, which

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by a silently working key could be demagnetised by the operator without the knowledge of the percipient, the effects of magnetic action applied to the skin, or the power to judge direction, might be studied as an aggregate result of a large number of observations, after the method employed by Féré and Binet.

(3) Another problem left incomplete in our work is the effect of very fast and very slow motion over the skin. It was repeatedly found that, with a very slow rate of 1 mm. in from 10 to 18 secs., a drop-weight that could be distinctly felt seemed quite at rest on the arm while it really moved six or eight and in one case over eleven centimetres. Here not only must friction be reduced to a minimum but—what is far harder, in fact almost impossible for one familiar with the experiments—there must be no impression that can be remembered of the general position on the limb of the start; for, with that in mind, we are sure after a certain distance, even if we have no sense of motion, to observe that its position has changed. Again we were also able, by means of another yet imperfect apparatus, to produce motion over the skin of the arm for about three inches so rapidly that the percipient could not tell at which terminus the motion began and at which it ended. Motion seemed to be felt but may have been only inferred, as the conditions of the experiment were known and only motion applied. The fast and slow limits and the way in which their courses develop remain yet to be determined.

The effects of previous rubbing, blistering, stretching, &c., on the judgments of dermal motion are also incomplete. Hard rubbing with pressure greatly reduces sensibility to motion, and a slight amount of very superficial friction seems to increase it.

In conclusion, it would seem that "local signs" are quite heterogeneous, and that, in the strong tendency we have to move the touching dermal surface over objects in contact with it, we are seeking not merely to multiply but to diversify our sensuous data for judging the nature of the impressions and to fill up the dermal "blind spots" between which impressions are sifted in to us. The astonishing development which dermatology seems now undergoing is no less striking from the psychological than from a pathological or anatomical standpoint. The effect of disturbed dermal functions in affecting psycho-sensory sanity; the fact of the genetic origin of senses and central nervous system from the external embryological layer; the function of specialised dermal sensations in presiding over the exercise of the sexual activities; and the relation of what the old psychology roughly called Touch in giving us the primary qualities of matter—all indicate the skin as not only the primeval and most reliable source of our knowledge of the external world, or the archæological field of psychology, but as a just opening experimental domain of great breadth, where work seems now possible that may compare in both quality and quantity with that accomplished in physiological optics, and which may shed new light on some of the most fundamental problems of psychical action and unfolding.

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V.—CRITICAL NOTICES.

Metaphysic. In Three Books: Ontology, Cosmology, and Psychology. By HERMANN LOTZE. English Translation edited by BERNARD BOSANQUET, M.A., Fellow of University College, Oxford. Oxford: Clarendon Press, 1884. Pp. xvi., 539.

In the *Metaphysic* Lotze sums up, with ample historical and critical detail, views which in many other forms he had already laid before the world. If, however, it is to be said that the work contains little absolutely new to the readers of his earlier philosophic productions, it is to be added that only in it is there given the fulness of statement required to make a speculative thought intelligible, and that in this, his latest effort, Lotze's remarkable powers of subtle expression, wide knowledge of the manifold issues raised at every step in speculative construction, and keen sense of the bearings of metaphysical thought on real experience find their amplest scope and bear their richest fruit. No word need be said of the value of the *Metaphysic* as mere discipline. Instructive as Lotze's method always is, whatsoever be the matter to which it is applied, it is here more than ever of significance. The work is a monument of careful, profound and comprehensive thinking. But it is sufficiently recognised that in Lotze, Germany and the world has lost the last representative of a great philosophical tradition, and that his works must be taken to heart by any student who desires to know how the problems of speculation still connect themselves with the ever increasing mass of special knowledge that the labours of the new generation have accumulated. Our business, at present, is solely with the one closely knit view of things that forms Lotze's metaphysical conception, a view that has given connectedness to his researches in many special fields, that has grown with his growth, and that finds here its most explicit statement.

"Except in rare cases," Lotze has said, "a prolonged philosophical labour is nothing else but the attempt to justify, scientifically, a fundamental view of things that has been adopted in early life." There is certainly a wide difference, in form and in detail of treatment, between the *Metaphysik* of 1879 and the early, little appreciated work with the same title of the year 1841; yet the slightest comparison of their contents enables us to see that the fundamental conception has remained the same, and that the difference arises, in part, from a relinquishment of the method which in the earlier work exhibits clear traces of the then prevailing philosophy in Germany, in part, from the increased fulness of special experience with which the fundamental thought is connected. In both the fundamental conception is that of ethical or teleological idealism—the view of the sum total

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of things as the unfolding of a plan, of which the significance is spiritual, of which the fixed traits are the general laws of order and connexion in nature, and of which the manifestation is the varied realm of things.

The manner in which a thinker arrives at his deepest conviction or is led to give definite form to his thought has always more than mere personal interest. The influences which have weighed with him, and which enter as components into his view of things, are not to be regarded as mere external accidents; they form the very substance and in some ways the most significant element of his views. The function of a metaphysical doctrine is to give a unity to experience, and the character of the experience taken in is an essential constituent of the doctrine itself. Lotze has not left to conjecture the task of determining what in his case were the historic circumstances under which his thought was developed. In the interesting account of his early speculative impulses given in the *Streitschriften* (1857), he permits to be seen with the utmost clearness the two great forces which operated on him. These were, briefly, the idealist philosophy of which Hegelianism was the prominent representative, and positive natural science then beginning its extraordinary development in Germany. The opposition between science and the application which Hegelianism had made of idealist philosophy to the details of real experience was in Lotze's mind decisive as to the need of reconstructing, or stating what seemed to him of permanent value in, the great speculative thought of idealism. One may think that he was never quite just to the method of Hegel, that he failed to distinguish what was extraneous to it from its essence, and that his keen sense of the dangers which it had not avoided occasionally carried him too far in the other direction; but it must always be admitted that he undertook the recasting of the idealist conception with an infinitely fuller knowledge than his predecessor of the real experience to which it must be applied, and consequently was enabled to enrich and expand the thought with which at heart he was in entire agreement. It may perhaps prove that the chief value of the *Metaphysic* will consist in its service as introduction, from the more modern point of view, to the bolder, more comprehensive idealism of Hegel. Some perception of this was doubtless operative in inducing the late Prof. Green to devote so large a portion of his industry to the translation of the present work. Quite a third of the volume is due to him.

To Lotze himself, as one may gather from many detached criticisms and from the general tenour of his whole treatment, there appeared to be one vast difference between his own conception and that of Hegelianism, a difference extending beyond and lying at the root of the manifest divergence of method. In laying out the matter of metaphysic, Lotze adopts on the whole the method of Herbart, and generally is of opinion "that it is

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only inquiries conducted in the spirit of realism that will satisfy the wishes of idealism". But the superficial difference of arrangement only indicates the deeper opposition in which Lotze stands to the Hegelian method. To him that method seemed to imply the view that the ultimate nature of reality was to be found in and was exhausted by a symmetrical interconnected system of thought-determinations, from which in some way the real proceeded, of which the real was in some way the imperfect manifestation or shadow. Even though at times he is forward to acknowledge that in Hegel are found correctives of such a view, he is yet consistently of opinion that the Hegelian method leads to nothing but a rehabilitation of the Platonic impassable and unworkable division between the realm of absolute thought and the changing, variable, transitory and relatively non-beënt world of finite fact. To such a conception he stands in irreconcilable opposition and would press as against it the view that found in Aristotle its early exponent. With a statement of the opposition the *Logic* closed, with a restatement of it the *Metaphysic* opens.

It is not, says Lotze, consideration of the pure relations which hold good of the contents of thought that can force on us the metaphysical problem. For of these relations it cannot be said that they are, that they exist, but only that they hold good. Change is predicable of them, only by metaphor. In the world of the thinkable, condition passes not into conditioned, but remains valid with it in eternal, timeless quiescence. The characteristic of the real, its constant change, is no content that can be constructed by thought. Being and non-Being, as thought-contents, stand for ever side by side, each identical with itself and, for thought, irreconcilable with the other. Only an experience that is not pure logical thought brings before us as living fact the changing play of real existence; only in experience that is more than, other than thought, do thought-relations obtain realisation.

"The true reality includes as an inseparable part of itself this varying flow of phenomena in space and time, this course of things that happens. This ceaselessly advancing melody of event—it and nothing else—is the metaphysical place in which the connectedness of the world of Ideas, the multiplicity of its harmonious relations, not only is found by us but alone has its reality."[1]

It would certainly be impossible to exhaust in a single statement the implications of this strongly marked antithesis; only from a connected view of the consequences flowing from it, can one hope to arrive at adequate insight into its significance and worth; and to the exposition of such a view the *Metaphysic* as a whole is devoted. Before turning to the main line of speculation, we may consider for a moment certain preliminary doctrines

[1] P. 73; *cf.* pp. 78, 84, 135.

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which concern mainly the method to be pursued but which likewise connect Lotze's speculation in an intimate fashion with one at least of his predecessors in German philosophy.

It is an opinion which Lotze has repeatedly pressed, nowhere with more explicit statement than in the introduction to the present work, that metaphysic has no absolute method and must be content to start with any given problem of experience in the hope that systematic effort to clear up all the involved difficulties will find satisfaction only in a connected view of all the assumptions that for our thinking render the real conceivable. Assuredly, if by a special method were to be understood something lying outside the body of metaphysical thought itself, by application of which the course of procedure should be from the outset determined, no hesitation could be entertained in accepting his position. Thought has certainly no external standard to appeal to for aid in directing its procedure, nor any external means of testing the progress it has made. Itself is its own light. Even less doubt could be entertained as to the truth of the opinion, and still less value would that opinion have, if it were interpreted as meaning that the ways in which subjective thought gradually attains insight into those assumptions which it must make in order to give consistency and clearness to the conception of real existence, are as various as individual thinkers and occasions of reflection. The movements of the individual's thought assuredly prescribe no laws to the real about which his thought is exercised, and need correspond in no way to those connexions at which he ultimately arrives as expressing what he is convinced must be thought, if reality is to have for him consistency. But to maintain that the "forms of apprehending true Being without which we cannot think"[1] are interconnected; that in all its notions mind is depicting only the universal features of its own nature,[2]—is, while perfectly compatible with the view that "philosophy is throughout merely an inner movement of the human spirit,"[3] to grant all that could be demanded by the most ardent defender of a method peculiar to speculation. Doubtless, it is certain side-thoughts that give colour to Lotze's definite expression of opinion. He has in view pre-eminently the Hegelian dialectical method which appeared to impose on speculative thought one line of progress and which seemed to claim for thought itself possibilities of advance that, as Lotze thinks, can only be furnished by the special problems suggested in variable experience. But here, as throughout the *Logic*, Lotze seems to be entangled in the ambiguities arising from the double sense in which the term Thought is used by him. Thought is, on the one hand, the formal process finding expression in logical relations; on the other hand, it has the fulness of content that attaches to it as systematic representation of the assumptions

[1] *Metaphysic*, 156. [2] *Mikrokosmos*, iii. 539. [3] *Metaphysic*, 165.

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necessarily made in regard to real existence. In the first sense, thought has certainly no power of self-development; in the second sense, a needless opposition is instituted between real experience and thought,—an opposition that Lotze has ample occasion to withdraw. The developed conception of the nature of real experience must contain an explanation of the remarkable union in thought of the apparently irreconcilable difference between the objective content and the subjective existence of thinking as in the individual spirit. It is the peculiar excellence of Lotze's view that it allows us to put those different sides in a harmonious relation to one another; but such a result is altogether incompatible with the strong antagonism manifested to the methodical principle that in thought itself lies the spring of its own movement.

In one minor contention, Lotze finds himself in agreement with the view he otherwise opposes. Metaphysic cannot rest on or be preceded by a Theory of Knowledge. A criticism of knowledge is possible only on the basis of an underlying Metaphysic. In words at least, this opinion seems to stand in "unheard of opposition to the tendency of our time". There may be thinkers who have understood the Kantian idea of theory of knowledge to be equivalent to "a psychological analysis of cognition," and who have deemed it possible to analyse knowledge in general on the basis of some hastily assumed psychological facts. Doubtless, too, the demand to consider how knowledge is possible before proceeding with satisfaction to concrete problems, may readily degenerate into an empty formula, worth little more than the old request to determine the eating powers of a chimæra *in vacuo*. Doubtless, finally, it becomes a weariness to have critics of the Critical Philosophy continually charged with misapprehensions of its genuine meaning. But it seems, nevertheless, worth while to say that from Lotze's reproach Kant himself must be taken as exempt. With all its appearance of psychological method, the 'Transcendental Logic' has no other problem than that set by Lotze to Metaphysic, to determine the significance and connexion of the propositions in regard to reality which "we believe ourselves to have no option but to maintain". The categories and other 'playthings of philosophy' are not for Kant mere forms of subjective thinking; and that they should be put in most intimate relation to knowledge as constituting its essential structure is but to say that the connexion of the real is only for mind. To examine the possibility of knowledge is not for Kant to give a psychological analysis of the constituents of knowing or a history of how it comes about, but to determine the ultimate meaning of the notions, propositions or assumptions which are involved in the simple fact of experience. And, on the whole, whatever opinion may be formed of the limitations inherent in the Kantian method, one would be inclined to say, regarding the character of much post-Kantian metaphysic, that there is still need of

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Kant's strenuous warning that the significance of the ultimate forms of intelligibility can only be determined by viewing them in relation to thought. We may trace even in Lotze, though in him the due corrective is not wanting, a tendency towards treatment that closely resembles the pre-Critical method of Leibniz; and, in all historical reference to Kant, it should be borne in mind that the pre-Critical method was not foreign to him, that, *e.g.*, the conception of interaction as implying change of inner state among the individual members of a system was a point from which Kant started, not a new idea of scope wider than the limits of the Critical method.[1]

It is probable that to the influence of Herbart is to be ascribed Lotze's tendency to treat the Kantian and Hegelian method as inevitably falling into subjective idealism; for subjective idealism is the enemy against which Herbart directs his strongest attacks and has most sedulously to defend his own position. Lotze is certainly no Herbartian, and is right in declaring that, on the points on which his views approximate to those of his more immediate predecessor, both drew from a common source, namely, Leibniz; but in the external form of his method he imitates Herbart, and throughout the *Metaphysic* the conceptions which he bears most constantly in mind are those of Herbart. Nor is this unnatural; for Herbart's metaphysic has a prevailing air of scientific realism. Herbart's treatment of such fundamental conceptions as those of change, substance and cause comes near to the exacter determination of ordinary thought that characterises the best scientific method, and in some departments at least, as in psychology, the results are of the most excellent kind. It is possible at the same time—and for the view one would claim the support of Lotze—that the best results of the Herbartian treatment in the concrete spheres of research are independent of the peculiarities of the Herbartian metaphysic and can be combined with a conception of the whole nature of reality differing widely from that of Herbart.

The treatment of the first fundamental notions of Ontology—being, quality, reality and change (book i., cc. 1-4)—is directed so consistently against Herbart's doctrines that some notice of the latter seems needful in order to seize the full meaning of the result to which Lotze slowly works up. To Herbart, the task of Ontology was the elaboration or clearing up of the notions involved in or connected with the indirect affirmation of real being given in sense-perception. Philosophy, in his view, has to start from a foundation supplied to it, has to accept something as given, and has then to endeavour so to determine the nature of the involved thoughts as to bring them into conformity with the

[1] It is of interest to compare Kant's first metaphysical handling of the problem of real relations, in the *Principiorum prim. Cognitionis metaph. nova Dilucidatio* (1755), with that of Lotze, *Metaphysic*, bk. i., cc. 4, 5.

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absolutely valid laws of our thinking—the laws of identity and non-contradiction. Experience in its simplest phase, sensuous perception, no doubt offer us much that is incoherent, self-contradictory and standing in need of elaboration; but of one lesson it teaches there can be no doubt: it teaches that something is. Even if all the content of experience be characterised as phenomenal, even if we admit that sensuous perception as qualitative state of a percipient can in no way be identified with the quality—the *what*—of the real corresponding to it, yet the fact of perception, the order and method of perceived content —order and method which are as much given as the content ordered—force upon us the thought of an independent real from which they follow. The course of philosophy is thus arc-like; it starts from the groundwork of experience, is driven onwards and upwards to the conception of a reality that is not in experience, and has to descend again in explanation of experience with the wealth of notions that it has gathered in its progress. But the course of thought is never other than subjective. The contradictions inherent in the crude notions of experience drive us to supplement these notions and to form more complicated conceptions which allow thought without self-contradiction to deal with experience; but the supplementing remains a work of thought merely and indicates nothing in the nature of the real itself. The related elements of a complex conception, the ways in which we consider now this, now that, aspect of the real, remain external to the real itself. Objective we may call them, if we understand by that only—valid for all finite intelligences to whom experience comes as a compound effect of the relations in which intelligence, itself a real, stands to other realities; but they are subjective in the deeper sense, that in themselves they express only movements of thought, *i.e.*, transitory states of a subject over against and inclusive of whom the realm of reality stands in unchanged, stable, motionless self-identity.

The motives which animate a great thought are always so numerous and the value which one assigns to it depends so much on its applicability to special problems, that a brief statement can convey but little of its deepest significance. It must suffice here to draw attention to the main outlines of the conception which Herbart, following the older Eleatic and Atomist thinkers, placed in opposition to the dominant philosophy of his time. For him as for the Eleatics, the real was characterised by changelessness of being, simplicity and permanence; but with the Atomists, he admitted multiplicity of being. The real he found in the absolutely simple, positive, specifically qualified essences to the notion of which he thought we were driven in order to make consistent our empirical conceptions. The real existence which seems to be given in sense-perception, the more complicated experiences of things with qualities, of change, of interaction, seemed to him conceivable, if viewed as resulting from, or express-

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ing, certain relations of the ultimate realities that lie beyond experience. That the real is, we affirm as a necessary supplement to experience; what the real is, we do not know by direct perception, but we are driven to conceive of such real after the fashion of a simple quality, such as might be given in presentation. Having so determined the real, we have then to discover how, in conformity with its notion, to explain the most general conceptions of experience, the forms of our empirical knowledge, *i.e.*, Space, Matter, Movement and Time, and finally Experience itself as a series of states in a subject, which yet claims to have a peculiar relation with the real.

Apart from its general speculative importance, Herbart's view derives much of its interest from the apparent correspondence it maintains with the popular, common-sense, everyday conception of things. It represents one line along which thought, starting from the ordinary practical mode of regarding the world, is compelled to proceed. We naturally and easily take as initial position the practical conception of ourselves as real, existent, subjects, variously affected in consequence of the varying relations in which we stand to other real existences. The *position* or affirmation of reality in any presented content, offers itself naturally as the correlative of self-position, conviction of our own real being. An easy reflection, which doubtless conceals under its simple guise a highly complicated movement of thought, leads us to admit that the nature, the characteristic features of the posited real, cannot be identical with the qualitative content of the experience with which the *position* is connected, but we are just as ready to maintain that nevertheless the *fact* of our experience, the occurring of any presented content, is sufficient warrant for the position in question. We readily allow that the apparent unity of the things, to the conception of which we have accustomed ourselves, need not be absolute; scientific analysis renders familiar the view of apparently simple but really complex effects arising from the combination of simple antecedents; and, still carrying with us our conviction of reality as the substratum, we are willing to regard the varied field of experience as phenomenal result of unknown and unknowable real elements. Our realism easily transfigures itself. And equally simple reflections enable our first conception of things to yield certain provisional characteristics of these real elements. The difference between the fulness of direct sensuous perception and the unfulfilled content of a wish or purpose would be sufficient of itself, were it not confirmed by many similar distinctions, to lead us to the important discrimination between subjective and objective reality and to determine the latter as relatively independent, permanent, self-existent. Now of these and like reflections the metaphysic of Herbart contains the precise and explicit formulation. Like them, it starts from the conviction of the real nature of the affected subject; admits that the qualitative content of affections

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must be viewed as dependent on the subject; maintains, however, that the fact of the occurrence of these affections, and the independent ways in which they come and go, are sufficient to justify the retention of our first, primitive belief in reality; and endeavours to give an exact formulation of the results to which reflection on the form of experience must lead. One might ask, with regard to it, whether these results do follow as supposed; or one might ask whether the results themselves satisfy the demands of thought from which they are assumed to have followed. The latter is the line of inquiry followed by Lotze, and, although something may be lost by adopting it to the exclusion of the other, we may here consider the substance of the criticism he offers.

Does the conception of the existent as made up of a multiplicity of ultimate reals, each characterised by the marks of positive quality, simplicity, independence, enable us to understand the world of experience? Does not the attempt to make this conception conform to the demands of thought itself lead, even in Herbart's hands, to such a transformation of it as practically to destroy its peculiar features? One might say here that the Herbartian conception of the real corresponds point for point to his conception of the mental life, and most of the difficulties of the one are the difficulties of the other. There the varied flow of inner experience is viewed as the continuously altering result of the mutual interference of the several isolated *Vorstellungen*, each of which *is* and remains permanently what it is. But it was impossible for Herbart to avoid just such an alteration of his psychological doctrine as appears to be called for in regard of the metaphysic,—an alteration, as one might briefly express it, from the mechanical conception of a multiplicity of isolated units to the conception of a real altering spiritual life.

Consider, in the first place, the bare demands made in the notion of Being. Sensuous experience may appear to involve the positing, the affirming of a single, isolated, unit of reality, but it does so only if we allow ourselves to make a wholly false abstraction in its regard. The sensuous experience which might be conceived to have as its correlate the posited unit of reality would not be sense-perception as an act of knowing, but an abstract idea of the hypothetical simplest element in the psychical life. Nowhere do we find a sensuous experience which involves the position of an unrelated, absolute, real. The common-sense view of things goes no further than to the assertion that reality somehow *is* and is made known to us through sense-experience, nor does it ever involve the thought of real being as consisting in the absolute unrelated position of real elements. What determines for any element of existence its being is the relations in which it stands. The thought of pure being is, if we look to its genesis, an abstraction; if we look to its content, a mere abstract. Nor does it avail to insist that relations imply related parts, the being

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of which must therefore be allowed as independent of the relations. Common sense here is in complete accord with speculative thought. Being is a connected system of which the parts taken in isolation *are* not. And if we allow ourselves to revel in abstractions, to hypostatise, as Herbart does, unconsciously perhaps but not unfrequently, and to speak of these isolated elements as existences which *enter into* relations with one another, we suffer the fate inevitable on all abstract procedure: we are presented with incompatible features, with a disjunction that is to be united but refuses all combination. The relatedness of being is not an internal accident of being itself; elements which have not relatedness in themselves cannot enter into relations in general.

Herbart, however, had the courage of his opinions. He insisted that relatedness is an external accident of the reals, that the world of true being remains for ever intact, unaffected by change, and that the ground of change, phenomenal change, is not to be sought in any mark of the real itself. But careful analysis of his procedure makes clear to us that an important modification is introduced, and necessarily introduced, into the conception of the real. Phenomenal change we accept as an experience, which, though offering insuperable difficulties to thought, is nevertheless given; and the notions involved in it must somehow be capable of explanation. Herbart's explanation appears at first sight to be merely the more exact interpretation, the translation into metaphysical terms, of the criticism which scientific analysis of the common-sense view easily yields. One readily allows that the phenomenal thing, the complex of attributes united in our apprehension as one thing, exists not as it is at first conceived; that the multiplicity of attributes points to a multiplicity of real antecedents; and that the unity indicates no featureless substance, but merely the identity of one and the same real in varied relations with others. Any given real, A, may be placed in relation to any number of other reals; out of each such relation will emerge, for a spectator who is not directly cognisant of the reals but himself stands in relations, the apprehension that we call a quality or attribute; and popular thought readily accommodates itself to the admission that the unity of the empirical complex is provisional. Change, in like manner, must be interpreted as the phenomenal indication of the coming and going of real relations. But, having gone so far with Herbart, one is compelled to ask, not only whether more has been done than to express in a vivid way the primary conviction that experience rests upon reality, but whether the new interpretation is compatible with the metaphysical conception of the nature of the real. If the real is to be conceived as a multiplicity of simple unchangeable elements, capable of entering into relations with one another, what, for the reals themselves, is the significance of these relations? It is in vain that Herbart endeavours to retain the two opposing sides of his doctrine. He cannot at once claim for the

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real elements their characteristic features of unchanging self-identity and find in their varying relations the ground of phenomenal change, substantiality and causality. Even if it be granted that, for a subject that stands as one real among others, varying relations will take form, will find schematic representation in the ways familiar to perceptive experience as alteration, determined sequence of states and of events,—it remains impossible to interpret the nature of these real relations in conformity with the Eleatic view of Being. Herbart himself has another mode of interpretation. Change is not in any one real; but it may follow from the reciprocal relations of the reals. For these, he thinks, may be legitimately viewed as opposing one another, and as preserving each its own identical being in the midst of opposition. Each real maintains itself against disturbance or suppression from other reals, and in this self-maintenance is to be found the secret of real action. In any one real there may thus be a series of states or conditions, expressing the ways in which it preserves itself over against the other reals that oppose themselves to it. The elaborate criticism which Lotze offers of this new conception leads directly to the heart of his own view, and it may be briefly summed up as follows. If we preserve our first conception of the reals as simple, self-identical posited contents, then opposition or any kind of relation between the reals can only be thought as subjective mode of relating on the part of a conceiving mind, from which there follows no explanation at all of real action. If we desire to explain real action, and so allow that relation of the reals is more than subjective result of comparison—is something in the real world itself, then we must resign our conception of the world of reals as a multiplicity of independent, distinct, self-identical units. It is not that we require to supplement in any way our conception of real action, in order to attain this result; we simply require to make plain to ourselves the implication of the thought. He who posits real relatedness must at the same time allow that the independence of the related elements ceases, that they become no longer changeless, permanent centres of relation, but merely the relatively fixed points in one continuously altering system. The unity and self-identity which we demand of the real must be transferred from the hypothetical monads to the whole in which they are members.

Of the substantial soundness of Lotze's criticism no reasonable doubt can be entertained. The same line of thought, though with differing form of expression, lies implicit in Kant and in Hegel. For Kant is practically expressing the same view when he insists that, so long as we attempt to conceive objects as merely logical units, interconnexion of them is impossible. Objective relation is only possible in an experience connected together in the unity of a thinking subject. The very gist of Hegel's philosophy lies in the antithesis to Herbart's conception of the real nature of things as an aggregate of simple, unchang-

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ing points of relation. Lotze has his own quarrel with both Kant and Hegel, but it is animated by quite special considerations and is of small importance as compared with his agreement with them on this cardinal point.[1]

That the real cannot be conceived after the fashion of perceived object but only in the systematic order peculiar to the content of a notion, is a conclusion from which one may rapidly proceed to a statement of Lotze's ultimate metaphysical view. Retaining as he does the opposition between our subjective thinking and reality, Lotze is careful to maintain that the various thoughts by which we gradually correct our first conception of things are not to be taken as themselves constituting the nature of reality but as the ways in which we construct for ourselves a view that satisfies the problems reflection brings before us. The being of things we cannot reconstruct; we must accept the given fact of existence, and resign the inherently hopeless task of accounting for the fact that anything exists. But since we have seen that the ultimate nature of things is not to be sought in an aggregate of simple qualities, that the *position* characteristic of things is not to be taken as distinct from their content, that change and relatedness belong to the very essence of reality,—we are driven to conclude that the being of things is not a doom thrust upon them from without, is not the result of a union between qualities and an underlying substratum of reality, is not a law external to the cases of its manifestation, but can be interpreted only as the ability to act and suffer, only as the position which the so-called thing occupies in a systematic whole of interconnected and mutually determining reality. And, if we push further our attempt to make clear the notion of this interconnected system, we are forced to the conclusion that the absolute independence of things is an erroneous exaggeration of a truth correct enough in its proper place, and that relatedness of things is conceivable only if the so-called things be viewed as members of one fundamental unit or substance, or Absolute.

Philosophy has sought out many forms of expression for the notion to which Lotze, by his own path, thus attains, and, on the whole, criticism of them does but force upon one the extraordinary difficulties which attend any attempt to sum up in one brief formula the content of the most complex thought with which we interpret experience. It is hardly possible to avoid the abstractness attaching to the employment of any one notion as explanatory of a wide and varied complex of facts, and frequent injustice must be done in the criticism of other solutions by overlooking the inevitable narrowness of the notions through which definite formulation of a view has been sought.

[1] One of the briefest statements of Lotze on the problem of the nature of real relatedness will be found in the *Grundzüge der Religionsphilosophie*, §§ 14 ff.

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It is by closer scrutiny of the conception of real interaction among so-called things that Lotze advances to a more complete determination of the characteristics necessarily involved in the thought of the all-embracing reality. If relations obtain among things, if the thought of reciprocal determination is to be taken as more than a subjective term of comparison, these relations cannot remain external to the things themselves, but must indicate changes, reciprocally determining, in the inner states, the modes of existing, of the things themselves. That this should be so, is but a special application of the thought which Lotze throughout insists upon, the thought of reality as no mechanical compound of matter and form, but as itself the living, developing whole. If, further—recalling the conclusion reached, that the independence of things is but an abstraction of our own thinking, and that the possibility of a reciprocal determination of inner states exists in the unity of the real in which all such states are—we ask what mode of existence can we ascribe to the absolute real attained, we have simply to consider what insight we possess into the possibility of a union, a real union, of manifold states in one being. With Leibniz, Lotze answers, there is given one, and there is only given one, instance of such *unitas in varietate:* spirit or mind. We can only conceive of the absolute, the uniting bond of the varied states of so-called things after the fashion of spirit or mind. Reality, in the full sense, is only for the unit conscious of its own unity in multiplicity. Doubtless such a conclusion raises many special problems, but it furnishes the sole comprehensive answer to those more abstract inquiries that fall within the scope of Ontology.

It is not possible to do more than indicate in the briefest fashion the nature of the discussions which fall under the remaining rubrics of the *Metaphysic*. Generally, the purport of these may be said to be the attempt to show that the forms of experience, more or less complex, which at first glance appear more particularly to connect themselves with the realist view of the universe, are susceptible of as exact and more profound interpretation on the idealist hypothesis. For example, the reality of space which is a necessity for the realist view in one fashion or another, whether in the crude fashion of naturalist speculation or in the finer metaphysic of Herbart, may retain all its significance when interpreted as signifying merely that in the nature of the inter-related activities of so-called things are involved features which are capable of apprehension by us only in the fashion of the space-schema. Space is thus a mode of intuition, or rather a mode of the intuited, for its relations appear in the content of the apprehension, not in the mode of apprehending. Time, in like manner, must be conceived not as something external to the real life of the one absolute being, but as the mode in which, in the experience of the finite spirit, the orderly connexion and continuous development of reality is apprehended.

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There is in the chapter on Time and in the treatment of the same point in the *Grundz. d. Met.* and *Grundz. der Religionsphil.* much matter that would deserve careful and detailed handling. Of special interest, in my opinion, is the manner in which Lotze has to connect with the metaphysical difficulties of the notion of Time the psychological problems that arise from consideration of memory and of the limit of simultaneous consciousness.

The further the Cosmological speculations are pushed, the more nearly do they approach a question familiar to British philosophy. When space has been interpreted as a mode of intuition, when a reading in terms of conscious experience has been attempted in regard to the fundamental characteristics of matter, when the independent existence of so-called things has been denied,—the question naturally arises, Are things and their relations more than the orderly experience of finite minds? Is there no existence in the universe of reality save the conscious experience of minds? Unfortunately the answer to such a question has too often been attempted with the aid of notions altogether inadequate to it, and with an almost total forgetfulness of the true metaphysical significance of the question. One cannot but feel sympathy with Herbart in his indignation at subjective idealism; for if ever there was an empty formula, parading itself as full of meaning and value, it is the fancied philosophical truth that since all that we know is in self-conscious experience, our varied presentations and representations compose the total of reality.

It is a prejudice, though an inveterate prejudice, that the spiritual, inner life, has no other function than to reflect in fashion of a mirror a real world, complete in existence and function independently of mind. The contrast that obtains under any metaphysical conception between the larger life of the whole and the inner modes of being and acting which make up the individual's self-consciousness, is too readily interpreted as a contrast between two radically unlike phases of being; and the simple truth that the being of even the hypothetically assumed *thing* is not identical with the phase of individual thought in which it is directly apprehended or indirectly represented, is taken to mean that the being of things is complete and absolute apart from the spiritual realm of self-conscious mind, that existence breaks up into two unlike spheres. But we rob the thing in no way of its *reality* for all the practical ends of life (and these for the most part determine our conception of reality) when, on purely ontological grounds, we deny to it self-existence and independence, and interpret it as but a form of the process through which the absolute, itself spiritual in nature, takes expression. Just as little need we hesitate to say, on grounds more psychological, that things are not in the fulness of their being save when forming, with and in relation to the inner life of self-conscious minds, parts of that to which we can assign reality of existence. Things are not modes of apprehension of finite minds; the ex-

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ternal world is no spectral illusion or projection of individual minds; but the existence of things, of an internal world is not a summed up, completed fact, apart from the existence and thought of finite minds. We must interpret the world as one whole, not as an incoherent juxtaposition of opposed parts. A world in which there is an inner life, directly and immediately given, cannot be interpreted after the realist fashion, whether in its crude or more refined form. And here, one may be permitted to say, lies the oversight in the quasi-metaphysical schemes that have been based on modern scientific conceptions. We need not only the most exact and complete history of the ways in which the real course of things has proceeded, but to interpret the whole in the light, not of what is lowest, least independent in it, but of what is highest, most complete in being.

It is but a step from this conclusion to a new series of thoughts which Lotze, wrongly one may think, does not specifically include under Metaphysic. In accordance with his stubborn antagonism to the term Thought, Lotze, insisting that the function of thought is but formal, finds in the concrete life of spiritual activity, as contrasted with the cold, colourless mechanism of thought, the vehicle through which the real existence of things is brought down to us. It is Experience in the largest sense of that vague term—real apprehension, feeling and acting—that gives us a place among things and indeed makes these things to be for us. And in this concrete life, there are features, feelings and estimates of worth, of which the pure contemplation of the world by thought could give us no inkling, but which force upon us a new and larger interpretation of the sum total of things. In fact, Lotze arrives by his own path at the point long before reached by Kant in the *Kritik der Urtheilskraft*, and like Kant, though with more modern phraseology, offers a final reading of the universe in terms of ethical idealism. Things are, not merely in order to be the parts of a mechanism, but as the instruments whereby the ultimate good is wrought out; our knowledge has objective value because it brings before us no mere purposeless play of phenomena, but gives us a world the interconnexions of which are subordinated to the final and sole reality in it, the Good. Of the manner in which Lotze handles the difficult problems raised by these thoughts, nothing need here be said, for Lotze has himself with his usual caution excluded the treatment from Metaphysic proper. The ninth book of the *Mikrokosmus* and the *Grundzüge der Religionsphilosophie* contain his most matured expressions.

A notice like the present can convey but a very imperfect idea of so complicated a work as the *Metaphysic*. There exists in the English language no other work at all resembling it, and one may hope for good results from its appearance among us. Very sincere gratitude is due to the translators, who seem to have executed their difficult task with the most conscientious care

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and with a high measure of success. Our stubborn tongue does not lend itself readily to the expression of subtle thoughts, and at times the sentences of the translation have a Teutonic awkwardness, but on the whole the book appears to me by far the most successful of the unfortunately few translations we possess of German philosophical works. The editor, Mr. Bosanquet, is to be congratulated on the successful termination of what must have been difficult and delicate work.

ROBERT ADAMSON.

The Logic of Definition: Explained and Applied. By WILLIAM L. DAVIDSON, M.A., Minister of Bourtie. London: Longmans, Green & Co., 1885. Pp. xxiv., 353.

The first three chapters of this work state the principles adopted, while the remaining seven discuss their application. The application dealt with comprises four departments—the Dictionary, the School-book, the statement of Philosophical Questions, and a department of Biology. There is also a detailed table of contents (pp. xviii.) and a useful index; and (in an Appendix) a short account of Boëthius and an abstract of his treatise *De Divisione.*

Chapter i. begins by describing, with abundant and new illustrations, the processes of specialisation and generalisation in the meaning of words. Two questions are then raised—When is a change of meaning legitimate? and When is it necessary? and, an answer having been given to these, we come, in c. ii., to a discussion of the nature and the modes of Definition.

The question what Definition is, or how to define Definition, may almost be called a question that requires answering before it can be properly asked—which merely means, however, that here, as elsewhere, any vagueness in our notion of what is to be undertaken must weigh against the chance of success. Now, it is laid down in the opening sentence of c. ii. that "the object of Definition is to determine the nature or meaning or signification of a thing";[1] that, "in other words, Definition is the formal attempt to answer the question 'What is it?'" And, although it is not quite clear what is here intended to be contrasted with a *formal* attempt, I would suggest that so wide a definition of the subject-matter makes it really co-extensive with Philosophy; and that a means of giving it a narrower compass and less unmanageable extent would be to restrict it at least to the questions, What is it that *is meant* (1) in common usage, (2) by you the assertor? and (3) What *ought to be meant?*—the first question being purely philological, and important mainly as an aid in answering the second or third; the second being pre-eminently logical, as con-

[1] "Thing" defined as "including not only outward material objects, but also names, notions, mental states, &c."

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cerned with the attainment of agreement as to meaning; and the third being partly scientific, as requiring a wide knowledge of facts, and partly logical in the sense of being useful towards the general improvement of our means of expression, so far as the answer given is based on sound views of the inmost nature of language.

Mr. Davidson takes the defining operation first as a process, secondly as a product, and in his adoption of the view that there are two kinds of defining process, an "inductive" and a "deductive" one, we may see how necessary it is to make clear at the outset whether the process is to be regarded as a search after facts or a postulation of meanings. The same difficulty is suggested by the passage (p. 33): "What is Definition, regarded as a process? In other words, how is it that we determine the nature of a thing? in what way do we assure ourselves as to what is really to be *understood* by it?" (Italics mine.) Nor even if we expressly use, as on p. 54, the phrase "*understand by a name or object*," can we in the end do more than verbally put together the two distinct kinds of inquiry. The search after facts starts from the completion of some preliminary and provisional postulate as to meanings.

The rest of c. ii. sets out various "defining modes"—Description, Etymology, and Example being enumerated in the list, along with the typical process *per genus et differentiam.* The distinction usually insisted on between exhaustive and inexhaustive statement of the class-attributes is thus treated rather lightly, especially since it is not noticed that the two modes, defining by analysis (*i.e.*, by enumeration of several class-marks) and by negation, are either attempts to give the meaning exhaustively or else are cases of description. It should be remarked also that in a later passage (p. 63) all these modes except *per genus et differentiam* are treated as cases of "incomplete or imperfect" definition, the two last coming apparently under no applicable rule. The Rules of Definition are set out and illustrated in c. iii., and here again the examples are mostly new and apt.

In cc. iv., v. we reach a portion of the work that is interesting as dealing with subjects that have been much neglected. Mr. Davidson has many complaints to bring against dictionaries and school-books, and many suggestions to make for their improvement. As regards the Dictionary, his article in MIND XXII. will give the reader a nearly complete account both of the charge preferred and of the remedies proposed. We may therefore be content here to single out a few points at which there seems room for a different view from that taken by the author. Thus, when it is said (p. 72) that the dictionary-maker "must as far as possible avoid tautology . . . inadequacy . . . and *ignotum per ignotius*," it should be remembered, first, that the purpose of a dictionary differs from the purpose of a set of definitions in a point which the traditional doctrine that

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definition should be *per genus et differentiam* possibly tends to obscure. The process of definition, as contrasted with translation or paraphrase, is really a process of operating not *in vacuo* but upon a notion already there. When the need is felt for drawing a line, the field on which the line is to be drawn is already *somehow* recognised. Where therefore the primary object is to define, the statement of the *differentia* is always the real centre of interest, even where the *genus* chosen also has some importance. On the other hand the dictionary has especially to provide for the case where the word to be explained carries no meaning at all to the individual inquirer, and where consequently a far vaguer account will answer the purpose required: so that explanations which, from the point of view of the need for definition, are flat tautologies may be quite sufficient to give the first broad notion that the user of a dictionary is seeking. Moreover, it is only where, as in certain departments of physical science, the subject-matter has reached a high level of systematic classification, that explanations giving both *genus* and *differentia* clearly can be put into short enough form: so that the day seems distant when an inquirer seeking a *definition* of a name which (like Justice, Courage, Wisdom, or Generosity) is in everyone's mouth, and the application of which marks the speaker's level of education, shall be able to educate himself by the simple process of turning out the word in his dictionary.

Again, the familiar view that certain notions may escape responsibility for their outline, on the plea of being "ultimate," must be much digested and modified before it can be safely put to use. The truth that the doctrine aims at seems to be that since names vary in intelligibility there must be some which are most intelligible of all: and that the latter will never be truly explained by means of the names that themselves stand more in need of explanation. But which *are* the most intelligible names, to a given person at a given time, is a question admitting only of the answer that we should give to the question what are the most delicious viands, or which are the clearest kinds of memory. When the dictionary-compiler comes to a word which to him seems more intelligible than any phrases that can be pressed into service for its explanation, what is he to do? Mr. Davidson would have him either leave the word out or be content simply to mention the name or names that are commonly used in contrast to it: thus he says, "Pain and Pleasure are self-explaining, or else not to be explained at all". But surely one lesson that philosophy should teach is that there is no name, and hence no notion (Pain and Pleasure perhaps as little as any), secure for ever against further inquiry; rather, if philosophy progresses at all it is by making "ultimate" notions somewhat clearer. In the case of Pain and Pleasure, for example, philosophers have learnt much since the time when a crude utilitarianism could win a respectful hearing: and in fact Mr. Davidson's section on Happiness ("Philosophical Vocabulary,"

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pp. 161-169) is itself a recognition that it is possible to look a little behind the veil of the so-called ultimate notions, when language is used. It seems to me that the key to what is faulty here in Mr. Davidson's theory is that he attempts to sever the notion from the name, and at times confuses both with the thing.

Under "Discrimination of Synonyms" (pp. 89-107) the points last mentioned seem partly recognised, partly not. Mr. Davidson rightly notices that the multiplication of what are loosely called synonyms increases with the increase of a nation's experience, and with the corresponding advance of precision in thinking; and further, that in any language the most highly elaborate department of thought is usually that which is richest in synonyms, so that the proportion of synonyms in various departments gives a rough indication of the national bent. But the plan proposed for dealing with the question of discrimination might perhaps be improved. It is here of service to distinguish, as Mr. Davidson does (p. 95), various causes of the origin of synonyms, but the chief cause seems left needlessly out of sight in saying of "the large majority" merely that they have nice and subtle demarcations. May we not venture to say that the most important class of synonyms are those that spring from half-successful attempts to establish in language (*i.e.*, with the many) distinctions reached in thought by the few? The need for a new distinction is, as a rule, seen best by those who have also some more striking claim on the public attention; and their manner of speech is often more easy to imitate, superficially, than their manner of thought. It is notorious that the greatest writers have always suffered considerably at the hands of their would-be followers, who use their technicalities much as the savage is said to use the garments of civilisation; and it is not difficult to see how in some such way two words may be accepted in the language and applied almost indifferently to what still seems to most people essentially the same thing spoken of. I say half-successful; for on the one hand if wholly successful the recognised distinction makes the two words no longer synonyms, and on the other hand if wholly unsuccessful the innovation leaves no lasting trace in the language. And so far as it is the function of a dictionary to define, this kind of "synonym" is the kind that must present an endless difficulty. The few and the many will probably always stand in opposition as to the best use of the words intended to express the more difficult notions; and hence the dictionary-maker of the future will in practice be under strong temptation to provide, as now, a handy means of enlightening gross ignorance, rather than a concise embodiment of the most highly developed views on all possible subjects. Besides, no one man could undertake the latter task successfully, and it would be difficult to establish the needful harmony of method among a number of specialists.

These are the three main points which Mr. Davidson's scheme

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for improving dictionaries appears to have insufficiently taken into account. It will be seen that their effect is rather restrictive than subversive of the scheme. It remains true that dictionaries are capable of much improvement, and that attention to the philosophy of language is highly desirable in a dictionary-maker. And though we may not join in Mr. Davidson's strong condemnation of what the dictionaries already provide, and may see practical difficulties in the way of bringing about any great improvement, we may still be grateful to him for the manner in which he has attacked this difficult problem. The examples given show at least that something useful can actually be done in this direction by one who is able and willing to do the work thoroughly,—though a few of these (*e.g.*, the account given of Mind, p. 115) give indication also of the difficulty of avoiding doctrine in matters of really divided opinion. For, in proportion as a dictionary rises above the function of registering vague and popular views, the need arises that the statements made should be of a kind that are disputed, not by another school, but only by the ignorant.

School-book definition receives a much shorter treatment, and I can here find no suggestions to make that would at all conflict with Mr. Davidson's. It is clear that in the School-book we have the extreme case (baby-literature apart) of the need for sacrificing exactness to intelligibility, and here accordingly Mr. Davidson would allow a rather broader and vaguer treatment of words than in a dictionary. The rule that repetition should be avoided except for the purpose of adding to an earlier statement seems a good one; and if School-books are so defective as Mr. Davidson finds them in the matter of following a progressive order, much improvement in this respect is clearly feasible.

There is little space left in which to give a sufficient account of the remaining chapters. The leading idea in regard to Philosophy, that its disputes are largely logomachies, is so nearly true that it requires to be used with caution. It is true that bad discrimination means bad philosophy, but not that we can discriminate correctly by merely taking thought for it. On the contrary we only find that our discrimination has been faulty by means of the proved incompetence of our express theorising. No study of the principles of definition therefore will enable us once for all to reach the summit of knowledge, but the philosophy of any period will always be at once the expression and the limit of what is then possible in the way of discrimination. The movement is rather from improved philosophy to improved discriminating power, than from the latter to the former. That Mr. Davidson for the most part accepts this view is evident from the importance given by him to the historical method in dealing with the philosophical vocabulary. But in the chapters on the separation and the statement of Philosophical Questions the truth seems to be occasionally lost sight of. Thus, to give as a rule (p. 239) that in every province of investigation or dispute we must "make

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sure of the limits of inquiry" is surely to ask too much from progressive human nature. Is it not more true to say that the reaching of any result in Philosophy carries with it an alteration, for the future, of the form and scope of the question from which we started? Again, to say, as in c. ix., that in regard to the statement of questions we compare rather unfavourably with the ancients, is (unless it be held that our philosophy is degenerate) to overlook the intimate connexion existing between thought and its expression. But whatever discount has to be made from the value of cc. ix., x. on this account, the analysis of the modes in which questions may be misleading is useful, both for its own sake and as showing how much remains yet to be done in dealing generally with these sources of error.

On the whole, Mr. Davidson's book is likely to be interesting to many readers. If I have dwelt more on shortcomings than on merits, it is partly because the former seemed less obvious and partly because they seemed to be such as could be taken account of without affecting the main results of the care that has evidently been bestowed throughout the work. Any plan of applying the ordinary views about Definition so widely and yet so carefully as Mr. Davidson has here planned to apply them cannot fail to yield much that is useful, if only by showing more clearly where certain weak points in the doctrine lie. And, in the light of the examples copiously given in the book, I would suggest that the received principles of Definition themselves stand in need of certain improvements before they can be used with the best effect in improving other things. For example, so long as "essential difference" is dissociated from reference to some purpose for which the difference is essential,—such purpose being always that of *asserting* generally—so long we shall never get free from the needless burden of trying to find some meaning which shall fit a word in all its possible contexts. The meaning of a word is something to be fixed, not found; and though in the simpler cases it may often be also viewed as something discoverable, yet it is hopeless to attempt anything like strict definition of words whose meaning is of the more complex and variable kind, except in reference to some one proposition in which they are used; the real aim of the process then being to obtain standing-ground for the search after reasons. This view does not however propose to abolish all attempts at systematic classification; it only emphasises the distinction between the process of fixing a meaning for immediate purposes and that of finding the best arrangement of classes in given subject-matter at a given stage of inquiry. No doubt we may, without violation of usage, call both of these Definition, but the one differs from the other much in the same way as the process of laying down a postulate differs from that of real generalisation. The distinction adopted by Mr. Davidson (c. ii.) between "inductive" and "deductive" definition, though not by him fitted exactly to the difference just noticed, might perhaps be used for it; but, in view of the mis-

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leading associations that are apt to stick to the names Induction and Deduction, it would be better, I think, to avoid the use of them and, instead, to limit the name *Definition* still further than was suggested above as a first improvement on Mr. Davidson's view,—*viz.*, to the process of agreeing upon some meaning for the purpose of getting a given assertion correctly interpreted; using the name *Classification* for the rearrangement of names and their meanings for general purposes or in a manner intended to last until knowledge outgrows its clothes;—while inquiries into past or present custom of using words should be recognised as purely historical, and useful only as history is always useful to Philosophy or Science.

ALFRED SIDGWICK.

Ethica; or the Ethics of Reason. By SCOTUS NOVANTICUS, Author of *Metaphysica Nova et Vetusta.* London: Williams & Norgate, 1885. Pp. 191.

Scotus Novanticus (who is now known to be Prof. S. Laurie of Edinburgh) here follows up his metaphysical analysis, reviewed in MIND XXXVI., by a similar investigation of the root-notions of Ethics. The two Essays are, indeed, but two parts of one work. The present instalment repeats the characteristics of the *Metaphysica*, and is an equally noteworthy contribution to the determination of ultimate philosophical positions. The book is not controversial in character, and is as sparing as its predecessor in specific allusions to other writers; but we are able to feel that the abstention is advised, and that the author's theory has been elaborated in full view of modern discussions. As he proceeds on his own way, doctrines receive their correction, amplification or quietus, though their authors are not referred to. There is a word in season both for the Utilitarian and the Intuitionist. Where he is led to deal with concrete questions, the author shows little taste for Prof. Sidgwick's casuistical analysis; but he displays a sturdy moral sense with a fine flavour of settled 'Sittlichkeit' about it. In general, he wisely avoids discursiveness, and confines himself to a treatment of the fundamental notions of ethics, enforcing and re-enforcing one or two central points.

The former treatise left us with a phenomenological dualism, which seemed, however, to involve (as matter of faith if not of reason) a metaphysical monism. What differentiates man from all merely sentient forms of life, and constitutes him a rational self, was maintained to be the presence and activity of Will. No doubt it is this central activity or spontaneity which thinkers generally have in view when they insist upon the function of Reason in organising sense. But it was certainly a point worth emphasising, that Reason, as a distinctive attribute of man, does not mean merely consciousness of relations, but has for its essential feature the outgoing of the *Ego* upon facts and its con-

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sequent resumption of them into itself. "The *Metaphysica*," says the author in his Preface here, "regards Man as a being endowed with Will, and *hence* rational." Or, as he puts it elsewhere, "Free-will is not to be regarded as a 'property' of rational beings, but rather as the condition of the possibility of rationality". In order to accentuate. this position, the composite term "Will-reason" is frequently employed. Will-reason, however, as is afterwards explained, "brings no new energy (in the physical sense) into the world of the phenomenal". Its action is exhausted in affirming a certain content of volition, as end, law and motive. "The energy which gives effect to the Will is an energy drawn from the domain of feeling." The Will may, for example, lay down a law of Benevolence; but if there is lacking (in sufficient strength) the *emotion* of Benevolence or other feelings that might reinforce it, the rational content of volition will not be realised.

Very early in the book, the author defines his position with regard to the Utilitarian standard. He abjures the abstract judgment passed by the Intuitionist upon actions or motives, and freely recognises the necessity of taking account of consequences. "Any attempt to ascertain the truths of doing must comprehend in its range the perception of the effects produced by the doing. And this for the simple reason that, to begin with, . . . I can have no knowledge of the real character of a volition till it completes itself. It is not till then before me, as act and fact." But this is immediately followed by the counter-stroke which checks a premature Utilitarianism:—"Yet it is not by its effects that I determine the truth and goodness of a volition . . . but by the effect of those effects on me, the doer. The ultimate test of the character of a volition—of its goodness or badness—is subjective." Accordingly, it will readily be understood that the author refuses to accept any external result as the end and standard of action; self-realisation, in a sense closely resembling the Aristotelian, is the answer he adopts to the question, What is the End of man—the Good for man? But there remains the further question, Wherein does that self-realisation consist, and what are its conditions? The answer, it is replied, must be given in this case as in any other by an examination of the subject-matter—by "a science of man," built on introspection and personal experience, supplemented by an investigation of "the deeds, customs, laws, sayings, and ideals of man in the past". Now, "the Good" of anything consists in the harmonious relation of its elements; and this is not different when, as is the case with a being whose differentia is Will, the establishment of harmony is left in the hands of the creature itself. Hence, provisionally, we may say that Harmony and the Good are substantially one. Man has to find this Good for himself; the task of the moral philosopher is to ascertain the conditions of man's harmonious existence—"to organise him, so to speak". Man's nature is dual. On the one hand, "the Real in man," or "the attuent man," consists of an aggregate of feelings, in virtue of which man is a part of nature;

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on the other hand, there is "the Formal in man," or "the rational Man," who exists only in so far as the *Ego*, so to speak, takes possession of the mere attuent subject and transforms that subject into a Person. The first condition of moral harmony is, of course, the perpetual supremacy of Rational Will or of the Formal in man; but, in admitting this, it must not be forgotten that the element in which the moralist works is Feeling, and, moreover, that "Reason in constituting an organism out of the raw material of feeling has no guide save Feeling"—namely, the feeling of Harmony. This is an important position, and one to which the writer often recurs; its bearings are very well put, for example, in an excellent chapter towards the end of the book on "Subjective and Objective Ethics". Many thinkers, he there says in effect, seem to imagine that if they have dealings of any sort with Feeling, they fall thereby into a subjective eudaemonism, and sacrifice the possibility of Law. But the whole purpose of the movement of Will-reason is Law; and the satisfaction of a rational being in law-produced harmony is there in any case, whether we make any use of it or not. We need only reflect in order to see that this feeling of satisfaction must be the only possible touchstone of the Law. What other criterion is there by which we may recognise that we have attained in our volitions the true content of the categorical imperative? Without some such means of sifting out the different elements of "the real in man," the Law would have no reason for attaching itself to any particular content; it would hang in the air without any contact with reality at all. In other words, Law cannot instruct us as to the content of volition, as the Intuitionalist supposes. Nor does the Utilitarian, with his 'rational benevolence,' put the question on its ultimate basis: "if we say that the law resolves itself into the good of our fellow-men, the answer is, that the good of his fellows is nothing to any man, save in so far as he feels it, and in so far as it satisfies him" (p. 34).

Chap. xv. is specially devoted to the refutation of the Intuitional position, though, as the author says, the mere fact that the truth of Intuitionalism would render any history of morality impossible, is enough to condemn it once for all. Law contains in itself "nothing save the fact of imperativeness". This being so, "the fact that law is associated, in one place and at one epoch of human history, with acts which, at another time and in another place, are condemned or regarded as of minor importance, is explained without damage to the foundations of morality or to the supremacy of law in the human consciousness" (p. 62). In short, "moral law has a history, because knowledge of man and his ends has a history" (p. 79). This is rightly identified with the Kantian position when properly understood; and by keeping Law and End more closely together than Kant, the author is able to instruct Law by reference to experience. He gives it, in other words, an actual content from history, and so deprives it of the purely formal character which has been so much blamed

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in the Kantian ethics. He seems, however, hardly to recognise that Kant does connect his categorical imperative (though, perhaps, not invariably and not prominently enough) with what he maintains to be the one necessary or unconditional end, Self-realisation. It is, in fact, just on the unconditionalness of the End that the categorical nature of the Imperative depends; in this sense, therefore, I do not think Kant would have had any objections to admitting the author's contention that the categorical Imperative is at bottom hypothetical, *i.e.*, dependent on the End which it affirms (p. 144).

Proceeding to consider the Feelings which constitute, as he says, the real in man, Scotus Novanticus remarks that in themselves "all the feelings, whether propensions or emotions that enter into the subject, have their right to live established by the fact of their existence". Moral questions only arise in cases of conflict, and just as the physical inquirer seeks a *harmonia rei* as the law of the thing, so the moralist seeks a *harmonia morum*. Now the essence of Reason or Will is its power to arrest the separate desires, to compare them and affirm, in regard to any particular one, its gratification or suppression. "The doing of a rational being, unlike that of a mere attuent organism, is thus mediatised through a self-constituted end or idea." The content of this idea will vary, of course, at different stages of human progress; but, whatever its content, the consciousness of having yielded to the force of immediate desires must be a feeling of having contradicted one's true self-realisation. In the sphere of appetition, the growth of such an idea means the evolution of a Law of Temperance. Now all appetites, as such, are the same in respect of quality, *i.e.*, they are on the same plane in man's conscious organism; and, therefore, so far, we have a merely quantitative or prudential morality. But it is a plain psychological fact that certain motive forces stand on a different plane of feeling from that occupied by others; the altruistic and the æsthetic emotions stand higher in this way than the appetites. To this extent, consciousness is clear, but it does not assert any qualitative superiority of the altruistic to the æsthetic emotions, even while it owned the former supremacy. The author attempts to explain this by the quantitative superiority which belongs to the altruistic emotions, inasmuch as we are conscious that they involve the well-being of others as well as of self (p. 106). But this quantity surely does not belong to the emotion as such, that is, as a subjective fact; and if it be true, as I think it is, that the altruistic emotions are characterised by a certain sympathetic resonance, which gives them what Prof. Bain would call greater 'volume' or 'massiveness' than the self-regarding feelings, this is still not felicitously expressed by the word "quantity" when that has already been used in another and definitely hedonistic sense. There is more convincingness in the other ground advanced by the author for the supremacy of the altruistic emotions, namely, that on them depends the maintenance of the social

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organism, and, consequently, the possibility of man's realising himself at all in any direction; so that "a man who prefers the self-indulgence of the feeling of the beautiful to the altruistic emotions is thus far defeating the whole end of man" (p. 112). The acknowledged supremacy of the altruistic emotions does not, however, exempt them in turn from rationalisation and restriction. Philanthropy is not the whole duty of man; the end remains harmony or self-realisation, and my personality has its own claims which may restrict even the supreme emotion of Love. Every feeling indeed, it is admirably insisted, "contains in itself the elements of anarchy for the individual and the state," and the altruistic emotions, as well as less respectable forces, have in them the capacity of becoming a madness, and bringing in their train 'red ruin and the breaking-up of laws'.

Omitting much, *e.g.*, the excellent chapters on "Justice and the State" (where the author endeavours to furnish an ethical basis for Society as opposed to the mechanical view) and the "Emotions of Reason," we have space only to return to the subjective criterion of morality put forward in the book and to point out how the author seeks to guard himself against the imputation of Hedonism. To begin with, it follows from the doctrine of the *Metaphysica* that the *Ego*, in virtue of its very constitution through Will, must pursue Law as its end; "the felicities and infelicities of the subject are merely the engine of discrimination, but no particular felicity or aggregate of felicities can be the end to a being of reason". And again the feeling by which the realisation of Law or Harmony is attested, cannot, he maintains, with any propriety be called Pleasure ("which is the gratification of particular feelings in endless succession") though it may be spoken of as Felicity or Happiness. The peace and joy which belong to the feeling of harmony "are not purely pathological, as is the joy which any feeling as such yields. They are the peace and joy which attend law and duty. The joy is a rational joy—a joy of Reason, inasmuch as it is the issue of the organising of the chaotic elements of feeling in subjection to a reason-idea and the Law in it" (p. 92). Such feelings constitute, therefore, a moral sense, in the only true meaning of the term. "The moral sense in its final form is joy in the Idea and joy in the Law as such, and veneration for it. It is thus as purely rational as anything can be save the dialectic percepts of reason and their consequent categories" (p. 153). I have necessarily confined myself in the main in the foregoing account to bringing the author's salient points together, being disqualified as a critic through substantial agreement with his chief contentions. But enough has perhaps been said to prove that the argument deserves to be studied by all who aim at clear thinking on ethical questions.

ANDREW SETH.

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The Religious Aspect of Philosophy. A Critique of the Bases of Conduct and of Faith. By JOSIAH ROYCE, Ph.D., Instructor in Philosophy in Harvard College. Boston: Houghton, Mifflin, 1885. Pp. xix., 484.

Dr. Royce's book may be described as an essay on the Limits of Doubt. It is concerned principally with the limits of doubt in respect of religion, though necessarily, as the preface tells us, it sketches the basis of a whole system of philosophy. Dr. Royce's attitude towards his own and other people's thoughts and theories is that of a thorough sceptic; but what he claims to prove is that, if you only doubt honestly and as far as doubting can go, you arrive at a positive truth, scanty if it be. A great deal of doubting takes us away from God, but a little more brings us near to him again. For have we not a final question to put: What is the meaning of there being such a thing as doubt at all? And the answer to this question is that doubt can exist only in relation to something which is above all doubt, so that scepticism if pushed to an extremity is seen to be limited by idealism.

Of what nature this idealism is, and how the ultimate truth is related to the doubts and errors which lead up to it, remains to be seen. The above is merely an indication of the method pursued. The thought implied in this metaphysic of doubt or error is, of course, a very simple one: it is the positive form of the old negative saying that a thorough-going scepticism contradicts itself. But the problem of philosophy receives a new light from being put in this connexion, and the thought is worked out with a freshness and independence of mind which make it original in the best sense. Dr. Royce gets at his own results in his own way, and this gives his book a real interest and stimulus. His manner has merits corresponding: he writes a vigorous and clear style, quite unencumbered with technicalities; but its most striking quality is its imaginativeness (which, however, now and then betrays him into melodrama). He prefers to take his illustrations from poets rather than from philosophers, and there are some admirable philosophical essays on literature in the course of the work, especially the account of Romanticism (pp. 110 ff.) and of *Faust*.

The book falls into two parts, which are applications of the method described to Ethics and Speculative Philosophy respectively. These problems arise out of two of the three elements involved in religion, the moral, the theoretic and the emotional. "A religion must teach some moral code, must in some way inspire a strong feeling of devotion to that code, and in so doing must show something in the nature of things that answers to the code or serves to reinforce the feeling" (p. 4). Its question is: "Is there, then, anywhere in the universe, any real thing of Infinite worth?" and the answer must supply an object of theoretic belief, which shall also be an ideal of action and thereby inspire with feeling; or, following the order which is of most importance to religion, it

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must supply an ideal, which shall be verified by a theory of things.

Beginning then with the moral element, Dr. Royce passes in review all the ideals of action that men have proposed to themselves. All these fail to satisfy him because they depend ultimately on a "physical fact" and have no guarantee besides this "fact of human nature". Thus Plato's ideal, in spite of its "deeper significance, is not complete nor consistent". It can offer no inducement to be just except the pains that accompany injustice and the misery which the wicked soul must suffer. Who knows whether the tyrant may not be the happier? And, in any case, is not ideal justice, founded on the constitution of the soul, a bare physical fact which might have been different? It is the same with Christianity: for the morality of Jesus, considered as morality, is founded on a peculiar insight that each man is to have into the duty of returning the divine love (p. 45). Why should this unearned love be gratefully returned? The only reason is "the physical fact that man often feels gratitude". Or again, if the ideal of action is to act by conscience, "why is conscience right?" (p. 57). Conscience or the moral sense as such, only happens to be what it is; often it prompts to wrong, and it might for all we know have been different. It is plain that ideals founded on sympathy and pity are open to the same criticism: we may and we may not feel sympathy or pity. And still more with ideals of pleasure, whether egoistic or altruistic: we want to know why it is right to be unselfish, not whether it will assure happiness. Thus all the ideals require a judge to decide between them, and failing that they are in a state of warfare with each other. It is the scepticism which this warfare produces which reappears as pessimism, the ground of which is "not so much in the hopelessness of our efforts to reach our ideals once chosen, as in our perpetual hesitation in the choice of ideals" (p. 108). We feel indecision only because we sympathise with two opposing wills, both of which are united at one moment in our will (p. 133). Hence this very scepticism about our ideals implies a higher ideal than all, namely, the harmony of all conflicting aims. Complete ethical scepticism ends therefore with a principle which Dr. Royce expresses thus: "Act always in the light of the completest insight into all the aims that thy act is to effect" (p. 141); or again (p. 148), "In so far as in thee lies, act as if thou wert at once thy neighbour and thyself". This is the "moral insight," or full realisation of the wills of others, in contradistinction to the merely formal and external way in which we ordinarily realise them. On this principle may be founded two precepts for the guidance of life: the first a formal one, "Extend the moral insight among men and in thy own life"; or, "So act as to increase the number of those who possess the insight": the other concrete (p. 211), "Organise all life," in the service of the ideal required by the moral insight. This ideal is a Will which is the absolute

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unity of life and will include activities, such as those now devoted to Beauty, Knowledge and the State, that claim from those who own them freedom from selfishness. Such an ideal is even now partially realised in scientific activities.

In judging moral ideals by the test whether they are merely capricious or affairs of the individual, which "are" but contain no "ought," Dr. Royce is undoubtedly right. It amounts to the claim that the law of morality should be objective and independent of the particular person, and all moral ideals founded upon sentiment fail to satisfy this test. Dr. Martineau, by including in conscience an objective reference, has in part met the charge in this case; though it is very questionable whether even this objective conscience is more than the representative in sentiment of something which is not a matter of feeling at all. But Dr. Royce's criticisms of Plato and Christianity are more difficult. As to the latter, it seems difficult to separate the ethical from the theological view, and if the ethical belief of Jesus is to be stated as a theory and as a matter of "religious insight," it should at least receive the benefit of its metaphysical basis; and, so understood, to do God's will from love of him is hardly the same as following the instinct of gratitude. As to the former, it is true that Plato's theory is based on an analysis of human nature as it is; but then the problem to be solved—the nature of the good—is different with him from our problem—"what is there which is binding?"—and at any rate Plato's ideal is not a physical fact in the sense that it is the satisfaction of a caprice. These distinctions needed stating.

But the chief difficulty is in the final conclusion. It is true that the indecision as to which of several ends is the true one implies that there is an end, but is this end therefore "the harmony of all the conflicting aims"? The true ideal must indeed harmonise all ideals in the sense that it includes them: that is, given the former it becomes apparent how the latter can be entertained. But this is a conception which Dr. Royce disapproves in the case of Mill and Herbert Spencer when they seek to find confirmation for their own theories in those of others; though, when on p. 176 Dr. Royce himself says that Hedonism is the product of an imperfect understanding of the moral insight, he seems to be winning assent for his view by the same means. If, on the other hand, the ideal contains all other ideals in the same way as, according to Dr. Royce's belief (to be described later), the absolute consciousness contains error included in truth, this is true; but it does not follow from the warfare of the ideals. Or we may put the difficulty thus: all of us aim at different ends, but does this prove that each of us aims at an end which harmonises the ends of all? And if Dr. Royce replies that the extreme sceptic himself realises all ends, is not that merely a physical fact also? For, not even for the very best ends need you be so very sceptical. If it is to be otherwise, or if we are to

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conclude from what different people desire to the common aim of each, it must be because we already assume that each person is a self and is communicable with all other selves. We are only stating the difficulty in yet another form when we question the principle of the moral insight. What are the aims of all whom an act is to affect? Are they simply desires or wants of individuals? or are they already moral aims? If the former, then the theory would be only a reassertion of the natural fact that our conduct does imply a compromise of inclinations, and that is not what Dr. Royce means. If the latter, then the individuals are already credited with the moral insight, and the standard prescribed is open justly to the old charge of tautology. For there is no account of how these individual ideals can be the basis of a moral ideal, except the assumption from common sense (an assumption acknowledged on p. 154) that my neighbour is a self like myself, with a will and consciousness like mine: and how is that known?

These objections may seem to be academical, but they are meant to suggest that Dr. Royce's results, so far as they are true, are obtained by a method not different from that of the theories he rejects, namely, by an analysis of certain facts, which a true theory will explain adequately, an untrue one inadequately. Some of these facts are physical, and some not physical, and we have to discover the nature and relation of these two sets of facts. If so, then the most important fact of all would be the nature of the self or the will, and an analysis of this shows that it includes a reference to an outward order in which other selves are the elements: that the self is, in other words, a moral agent only because it at once attracts and repels others. The moral law does then "harmonise" the aims of all, because a moral action is one which is compatible with and advances the claims of others; but those claims are *just* claims, which are settled by the very same moral judgment as prescribes his conduct to the individual whom we suppose to observe them. Such an analysis will also show that there is a reason in the nature of moral action for all possible ideals yet proposed or to come.

The second and larger half of the book is much more technical in character than the first. It deals with the question of what there may be in the real world to support the ideal position already attained, and the result is more satisfactory. It begins with the "World of Doubt": this is the world regarded "as a theatre for the display of Power, physical or metaphysical" (p. 238). We do not mean to follow Dr. Royce in all his doubts about such conceptions. His view of the Monistic theory, very common now-a-days as the theory of mind-stuff, was set forth in MIND XXIII. His treatment of Panlogism does at least point out a real difficulty in the notion that the Logos needs to perfect itself through a process. The problems raised by the existence of evil are discussed in an important section (pp.

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264-271). All these conceptions, whether the popular scientific conception or Monism or the ordinary Theism with its notion of creation, seem to him to afford no ground for a religion; yet that we can mistrust all theories of reality in turn does at any rate admit the possibility of error, and thus arises the final problem of scepticism. How is error itself possible? The great merit of Dr. Royce's book is to have put this question in this definite form. His answer seems to us perfectly true: that error is possible only in virtue of an actual consciousness to which both the truth and the error are present (p. 377). This result follows from a very careful statement of the nature of judgment and the difficulties contained in different kinds of error. Take the error that one person makes about another: A is in error about B, means that if B could know A's idea of him, and compare it with his own idea of himself, he would know it to be error. Again, if I make a mistake about fact, it is because what is true and my apprehension of it are present together and compared in one consciousness. Thus error is possible only to a single all-seeing consciousness which contains all truth and knows too all judgments which, by comparison with the truth, it sees to be errors. Or, to quote Dr. Royce's words, "an error is an incomplete thought, that to a higher thought, which includes it and its intended object, is known as having failed in the purpose that it more or less clearly had, and that is fully realised in this higher thought" (p. 425). The preceding chapter on Idealism had sketched by way of anticipation the relation of such an infinite consciousness to the individual, and we may give Dr. Royce's hypothesis as he gives it himself "in a nut-shell". "Take as a final case Professor Clifford's well-known example of the man looking at the candle. In the world-consciousness there is the group of states, c, c^1, c^2. . . That is the real candle. In the world-consciousness there is also the group of states, h, h^1, h^2. . . That is the 'cerebral image' of the candle, a physiological fact. Finally, according to the laws of reality, the existence in the world-consciousness of the facts, h, h^1, h^2. . . grouped as they are, has co-existent with it, the group of ideas C in the man's mind. This group C corresponds more or less completely to the group c, c^1, c^2. . . as that group exists beyond the man's mind in the world-consciousness. The group C is the man's idea of the candle" (p. 353).

Thus "all truth is known to One Infinite Thought" (p. 437), which, therefore, includes also a knowledge of all wills and of their conflict (p. 433). This thought is, therefore, the Ideal Judge of all good and evil (p. 436). Here the moral joins the speculative theory, and the end is seen to be the "progressive realisation by men of the eternal life of an Infinite Spirit," which is Truth, and "Truth is God". In the Divine Thought is realised the moral insight and the universal will. And in this conception the problem of evil is solved; for evil we regard no longer as merely a set-off against good or a means to it, but the evil enters as a con-

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quered element into the organic total that constitutes the good will. Even so God's life includes, in the organic total of one conscious eternal instant, all life, and so all goodness and evil; or God is good only because "he includes the evil will in the structure of his good will".

Dr. Royce does not reach his end so directly as we have represented. There are two chapters (ix. and x.) called respectively "The World of Postulates" and "Idealism" which prepare his reader for the final result. He assumes or postulates that the world has a religious meaning, and then he goes on to confirm this postulate by showing how completely ordinary and scientific knowledge of the world depend on similar postulates. There is a faith in science that the world is rational, and that the truth of it is the simplest possible adequate description ("Postulate of Parsimony"); and this faith is like the religious faith that that description of the world is the truest which arouses the highest moral interest and satisfies the highest needs (p. 330). The chapter on Idealism forecasts what this highest postulate might be, and the subsequent chapters, which we have described, turn it from a postulate into a matter of knowledge. This part is by far the most difficult in the book: some of it has appeared in MIND XXV. It is full of good criticism: but when Dr. Royce says (p. 355) that causal sequence cannot be placed first (that is, before external reality) but second, as enabling us to develop in detail the idea that reality is like our own states of consciousness, we feel inclined to say: After all, external reality is not like our states of consciousness. And is not the final problem this: How can reality being present, as it surely is, in the Infinite mind, yet be unlike our consciousness? or conversely, What need is there for the Infinite thought so to reproduce itself in our finite thoughts as to appear in part unspiritual?

Undoubtedly, Dr. Royce's discussion of evil throws a great deal of light upon this question. It is quite true that in God the evil will is conquered or, if you will, transcended: and we may illustrate this belief that the good exists as a process, and is yet different in kind from the process, by the familiar doctrine of Aristotle that God is *ἐνέργεια ἄνευ ὕλης*. According to this we are not made for the glory of God, but in the consummation of our conquest of evil the glory of God is made visible. But it is strange that Dr. Royce should not have seen that there is here exactly the same difficulty as he found in the belief of a World-Logos. What need of this process of gradual realisation of the Logos by finite beings, and still more what need of this merely physical evil we cannot help, to which we can only take up the attitude of "stoical indifference" (p. 451)? For if moral progress takes place through gradually impressing a spiritual character upon what is ultimately physical fact, then are we not face to face with the problem: What then is this nature, these physical facts; and how can God appear in the form of nature? This is

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not the question 'Why should God have made the world?' which, as Lotze has shown, is an unphilosophical question, but the question, What is implied in there being a world of nature as opposed to spirit? or, How can spirit so divest itself of its spirituality as to appear as nature? This is the question which is shirked by theories that the atoms have souls, or that the ultimate reality is mind-stuff: but it is the question which it will be the immediate business of philosophy to answer. Until it is so put and answered, Absolute Idealism will always seem to say something which is very true, but which goes such a little way. And this is likely enough to be the impression which Dr. Royce's book may produce. But the central truth of idealism is so easy to forget that we cannot be too grateful to anybody who reminds us of it in a way that puts it in fresh lights and connexions.

There is one more difficulty which needs to be suggested. It is not clear how the Ideal Will of the first half of the book is identical with the Ideal Thought of the second half. That the Infinite Thought knows also all good and evil, follows from the conception of the world-consciousness; but how is the transition made from its knowledge of goodness to its being absolute good? It can only be made by showing that, in the nature of God, Will as it takes in him its ultimate shape is one with the ultimate nature of Thought. Now the moral insight does not help us here, for there too we need to be shown how knowledge of what our neighbour really is, is equivalent to the will to set on foot such activities as that knowledge demands. A similar objection has been urged against Green's ethical doctrine, and the transition certainly ought to be explicitly shown. But here again success depends, we think, upon the solution of the problem already stated.

S. ALEXANDER.

Grundtatsachen des Seelenlebens. Von Dr. THEODOR LIPPS, Privatdocent der Philosophie an der Universität Bonn. Bonn: Max Cohen, 1883. Pp. viii., 709.

Psychology, in the author's view, is fundamental among "the philosophical disciplines," forming the groundwork alike for theory of knowledge, æsthetics and ethics. Considered as a special science, it may be treated independently of physiology. The psychological method of observation does not differ from observation of the external world either as a process or with respect to the things observed; for in both cases the things immediately observed are presentations: it differs only as regards the relations in which the facts are observed. Mental facts are to be contemplated by the psychologist as products of a unity "which permits us to think every activity of presentation conditioned by the whole, or the whole active in every activity of presentation". At the same time, no hypothesis need be

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made, so long as we remain in the region of pure psychology, as regards the nature of this unity.

We may find in the title an indication of the way in which the unity of mental life is considered. The use of the word *Seelenleben* instead of *Bewusstsein* seems to show, from the first, an intention of not restricting psychology to the study of "states of consciousness". The extension Dr. Lipps gives to the conception of mental life is to include under it "unconscious mental modifications"; and the unity which he conceives as persistent through all changes of state is an organic unity to which the "unconscious" as much as the conscious states are in direct relation, not simply a unity of self-consciousness. An attempt so elaborate as that which is here made to work out this conception could only be the outcome of study of what has been done by the "physiological" schools of psychology. The author desires to avoid direct physiological reference; but when he tells us that the names he will have to mention most frequently are those of Lotze, Helmholtz and Wundt, we can see that it is, after all, the influence of physiology that has determined his extended conception of the subject-matter of his science.

In Section ii. ("The most general Facts") Dr. Lipps describes the "powers" of the soul to react on stimuli and its "dispositions" to reproduce feelings, as far as possible in purely psychological terms. Here especially he strives to guard against all hypothesis as to the nature of "stimuli," "powers" and "dispositions". Yet since the dispositions and powers are not themselves states of consciousness, any more than the stimuli, something of the nature of hypothesis is unavoidable. This takes the form of a description of a (purely psychological) mechanism conceived as determining the appearance and disappearance of presentations to consciousness. Presentations are to be thought of as existing so long as they are "in consciousness," and ceasing to exist when they are no longer in consciousness, while the psychical mechanism persists. The reproduction of a presentation is the production of one that qualitatively resembles it; the original presentation is gone for ever. The unconscious mental processes that end in presentations are not, strictly speaking, feelings or presentations themselves, though for the sake of convenience it is sometimes necessary to speak of feelings not only as "yet unconscious" but as "persisting in unconsciousness". We are not to imagine independent "powers" and "dispositions" corresponding to independent "presentations"; the various powers and dispositions overlap; it is because each contains elements of the others that they are capable of classification. Presentations combine according to their relations of intensity and quality. There are dispositions not only to reproduce simple presentations, but also relations of presentations. We have to distinguish primitive relations (Verhältnisse) from relations formed by association, by

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the working of the psychical mechanism (Beziehungen). Formed relations of this class easily pass into judgments; and thus psychology becomes continuous with theory of knowledge. "Verhältnisse" are related to "Beziehungen" as possibilities to actualities; they are those properties of presentations that make it possible for "Beziehungen" of definite kinds to be formed (Section iii., ch. 9).

Out of all the material offered by the six sections into which the book is divided, it will be best to select for special consideration one or two discussions that throw additional light on the author's conception of the mind as a system of unconscious "dispositions" which by their interaction produce the flow of states of consciousness. For the interest of the work is, on the whole, more in the treatment of general questions than in the details. It has the merit of being an attempt to go over the whole ground of pure psychology from the newest points of view. This being so, the most important thing, especially for a foreign reader, is to notice what general conceptions have become most prominent in contemporary German psychology and what kind of modifications in them are proposed by a German critic.

Dr. Lipps argues strongly against the assumption of "degrees of consciousness". Conscious and unconscious states ought not, he contends, in strictness, to have any common quality predicated of them, not even that of being presentations. The reason why we think ourselves entitled to speak of "sub-conscious" and "unconscious" presentations is something like this. First of all, the object of which we have an image is thought of as always the same. Hence the image (and, by extension, any representation) comes to be thought of as in itself always the same. Since the object is seen at different times more or less illuminated and with the light differently distributed over it, we come to think of the image as similarly persistent, but more or less illuminated, &c. "Attention" thus becomes for us a cause of different degrees of vividness of the image and its parts, and is made analogous in the world of consciousness to the external source of light in the world of objects. But this reasoning is fallacious. An image exists just as it is present in consciousness; and it is either present in consciousness or it is not; there are no degrees of presence in consciousness.

The image (or rather the mental modification corresponding to the image) may, however, be more or less remote from the threshold of consciousness. This consideration leads to a distinction that has much importance for the author,—the distinction between "force" and "energy" of feelings and representations. Presentations are not to be regarded as analogous to forces or motions of independent bodies, as in the Herbartian psychology (Section ii., ch. 8), but as processes in the soul, which is to be thought of as a unity and as having a limited quantity of force ("seelische Kraft," "Vorstellungskraft"). When this force

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goes in one direction it cannot go in another. In order to account, then, for mutual exclusion of two presentations, there is no need to suppose a natural contradiction between them or to suppose one of them to undergo transformation into the other. Unconscious as well as conscious states are to be considered in relation to the quantity of "seelische Kraft"; or, if we like to regard them as analogous to bodies, to the "total volume" of the soul. Each mental agitation has a certain "energy" set going by the external stimulus. This is to be distinguished from the quantity of force appropriated from the total quantity present in the soul. When the energy is at its height, that is, at the beginning of the agitation, the force of the presentation = 0: the "force" goes on increasing as the "energy" diminishes. Since the total "Vorstellungskraft" is limited, there is necessarily a conflict between conscious and unconscious states, and among the unconscious states themselves. This limitation explains "the narrowness of consciousness" (die Enge des Bewusstseins). We may admit that the limits of "seelische Kraft" are different for different persons and at different times; but for any one person only one series of presentations at a time can go on uninterruptedly; and the differences of mental force present at different times are rather changes in its direction than quantitative differences with respect to the whole of it. In sleep there may perhaps be less "seelische Kraft" than in waking-life; and in various abnormal states there may be fluctuations in its amount: but while making these admissions the author is inclined to think that all the special characters of these states can be explained by changes in its distribution. All that he claims as certain is, however, that at each moment the mental force present has limits it cannot overpass, and that these limits do not change without cause.

It may be questioned whether this theory (or rather this mode of expression) is, so far as it covers the same ground, an improvement on Wundt's theory of "attention". There is the objection to it, from the psychological point of view, that it is less detached from physical metaphors and hypotheses. When it is considered on its own merits, there does not seem to be any justification, from the analogy of the use of the terms in physics, for the special distinction made between "force" and "energy". The use of the word "energy" has, however, some value as an attempt to describe those kinds of psychical activity that are not properly classified under the head of "will," without the use of terms that seem in any way to imply volition. In one place the remark is made that reproduction of presentations generally may be figured as letting loose of latent energies. Thus a justification is found for the use of the word "disposition," and the rejection of "trace" (Spur) which seems to imply mere passivity on the part of the mind (p. 107).

The expression "degrees of consciousness" might be defended

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on grounds accepted by the author himself. Among the elements of a complex state of consciousness (it might be said) there are some that can be easily detected by introspection, others that can only be detected with more difficulty, and, lastly, some that cannot be discovered at all by introspection, but have to be assumed in order to explain the actual presentation. These last alone are properly unconscious states. Between these and the elements that can be detected without difficulty by introspection are "sub-conscious" states, for which the author's mode of expression seems to leave no place. But this is perhaps to give a slightly different sense to the doctrine he opposes.

In a work such as the present, where the author's aim is chiefly to set forth what is already known, much originality is not to be looked for. There are, however, some remarks on the will (Section i., ch. 4) that deserve to have special attention drawn to them; not, indeed, as being entirely new, but as being a clear statement of a truth that has not been sufficiently recognised. Dr. Lipps here argues that the mind ought to be called active when its movement is determined by nothing outside its own mechanism, passive only when it is subjected to the laws of a more extensive group of things. It is active (or passive) quite apart from any accompaniment of its activity (or passivity) by will. In daily life we are accustomed to speak of a free activity of the mind when without desire or will we follow the play of our own thoughts; when constraint calls forth an unavailing reaction we describe ourselves as not free. Thus absence of will, in the former case, springs from unrestricted activity; while, in the latter case, the violence of effort is evidence of the amount of resistance to activity rather than of the activity itself. Instead of calling the will in a peculiar sense "free," we ought, then, to ascribe freedom to the mind in all its activity.

By carrying out this idea to its application we should find that human personality is not, as is often assumed, concentrated, or even expressed in its highest or typical form, in the will. The free play of thought and emotion is a less inadequate, because less restricted, expression of the personality than any kind of external activity. It may be added that Dr. Lipps indicates the true solution of the question of freedom as opposed to determinism (pp. 701-2). When we make the activity of thought itself an object of thought, then, since all activity is according to law, and since we call that which is according to law necessitated, our own thought also seems to be subject to necessity. But apart from this "objectification" thought itself knows nothing of constraint; and the law which it is said to obey is the law of the psychical mechanism itself, not something imposed from without.

T. WHITTAKER.

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VI.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Microcosmus: An Essay concerning Man and his Relation to the World. By HERMANN LOTZE. Translated from the German by ELIZABETH HAMILTON and E. E. CONSTANCE JONES. In Two Volumes. Edinburgh: T. & T. Clark, 1885. Pp. xxvi., 714; xi., 740.

It was Lotze's fate to die, not only at the beginning of what (it was hoped) might have been a brilliant, if not a long, last stage in his academic career, but just before he could have the satisfaction of knowing how wide-spread as well as deep was the effect he had wrought upon the minds of his contemporaries. Following close upon the translation of his unfinished *System* (part of which is appreciated elsewhere in this No. with a thoroughness that is still under rather than over the mark) comes now a rendering also of his finished masterpiece of an earlier time (1856-64). In MIND III. the distinctive features of the *Mikrokosmus* were delineated at some length. The present translation was begun some years ago by Elizabeth Hamilton, Sir W. Hamilton's daughter, and, upon her untimely death, was taken over by Miss Jones of Girton College. Miss Jones is solely responsible for the whole of Vol. ii. and from p. 659 of Vol. i., but she has also had much to do in revising the earlier portion. Her work, as far as we have been able to test it by comparison with the original, gives evidence of the most conscientious care as well as intelligent understanding; indeed she appears almost over-conscientious in setting in the front longish lists of Errata which are for the most part too trivial to be so gibbeted. This, however, is but an excess of virtue; and she is decidedly to be congratulated upon the success of her effort to cope with the difficulties of Lotze's style, which are not small because he happens to have written better than most of his kind. Also by numbering Sections, improving Table of Contents, and adding a detailed Index (10 pp.), she has rendered no small service both to her author and to his readers.

Malthus and his Work. By JAMES BONAR, M.A., Balliol College, Oxford. London: Macmillan & Co., 1885. Pp. x., 432.

This book, excellent alike in conception and execution, lies for the most part beyond the province of MIND; but the author, though declaring (p. 39) that "Malthus cannot be said to have a place in the history of philosophy," has not omitted, in a special division of the work entitled "Moral and Political Philosophy" (pp. 319-54), to examine at length the question of his philosophical basis (so far as there), and especially to bring into view his relations to the English moralists and publicists of last century. In general agreement with his contemporary Paley (who on his side was decisively gained to the theory of population), though differing in his refusal to allow moral value to action done from either fear of punishment or hope of reward, Malthus owed most to Tucker among those who went before. Nothing, apparently, can be added to what the author has worked out, in his very interesting chapter, upon all the more philosophical aspects of the famous doctrine. Nor is it improper here to add, of his presentation of the economic theory itself, that now for the first time can the truly profound thought of Malthus be said to stand fully and fairly disentangled from the confusing accidents of its many successive settings.

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The Light of Asia and the Light of the World: A Comparison of the Legend, the Doctrine and the Ethics of the Buddha with the Story, the Doctrine and the Ethics of Christ. By S. H. KELLOGG, D.D., Professor in the Western Theological Seminary, Allegheny, Pa., U.S.A., &c. London: Macmillan & Co., 1885. Pp. xx., 390.

This work, as title and sub-title imply, has a distinctly apologetic aim which does not fall to be considered here, but it is of a scholarly character in its expository parts. The author (who was eleven years missionary in India) "has endeavoured, as regards every point involved in the discussion, to let the Buddhist authorities speak for themselves and state their belief in their own words. He believes that he will be found to have made no statement of any importance regarding Buddhist belief for which he has not given distinct Buddhist authority."

Scepsis Scientifica: or Confest Ignorance the Way to Science; in an Essay of the Vanity of Dogmatising and Confident Opinion. By JOSEPH GLANVILL, M.A. Edited, with Introductory Essay, by JOHN OWEN. London: Kegan Paul, Trench & Co., 1885. Pp. lxx., 218.

It was a happy thought to reprint this work. Though not quite so scarce as the editor (following Hallam) supposes, it has never before been as accessible as could be wished in view of its philosophical interest. Principal Tulloch, in his *Rational Theology in England in the 17th Century*, has very well described the subordinate and—as he was an Oxford man—somewhat extraneous part played by Glanvill in the philosophical movement known by the name of the Cambridge School; and the present editor in an Introductory Essay (pp. vii.-xlvi.) brings clearly into view some of the conditions under which he wrote, though rather strangely omitting all reference to the philosophical ideas of Hobbes which Glanvill is throughout so much concerned to oppose. (It is surely, too, by mistake, if at p. xxiv. it is meant that Sir Walter Raleigh, as well as Glanvill, can have owed anything to Gassendi.) The *Scepsis Scientifica*, published in 1665, reproduces, in a more subdued form, *The Vanity of Dogmatising*, in which, four years earlier, at the age of twenty-five, Glanvill had with youthful exuberance discoursed "of the Shortness and Uncertainty of our Knowledge and its Causes, with some Reflections on Peripateticism". The chief addition in the *Scepsis* is the high-flown "Address to the Royal Society," which had in the interval became formally constituted. This "Address" is here, somewhat unfortunately, paged xlix.-lxx. in line with the editor's Introduction. It is a pity too, in what is otherwise so choice a specimen of typography, that not only is Glanvill's misprint of 'Ignorance' for 'Innocence' in the heading of p. 1 left standing (though noted by himself in a list of Errata), but in the next line (first of the chapter) the reverse mistake is now made of printing 'Innocence' for 'Ignorance'. On p. 25, line 5 from bottom, 'motions' should be substituted for 'notions': Glanvill noted this error when first made in 1661, but carelessly allowed it to re-appear in the *Scepsis* without noting it; and it has now again been overlooked.

A Handbook of Psychology. By J. CLARK MURRAY, LL.D., F.R.S.C., John Frothingham Professor of Mental and Moral Philosophy, M'Gill College, Montreal. London: A. Gardner; Montreal: Dawson Brothers, 1885. Pp. x., 422.

"This handbook is designed primarily to introduce students to the science of psychology: and to this design every other purpose, which the book may serve, has been made subordinate." We must defer till a later No. more detailed notice. After a short Introduction (pp. 1-12) on the De-

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finition and Method, the author divides into two Books—of General and of Special Psychology. Book i. (pp. 17-108) deals with the "simple factors and processes" disclosed by analysis as involved in our cognitions, feelings and volitions: the "factors" or "elements" being Sensations; the "processes," Association and Comparison. Book ii. (pp. 111-417) then takes up the resulting "actual mental states," under the usual three heads; Feelings receiving considerable attention (pp. 303-92) after Cognitions, but Volitions being somewhat huddled up at the end.

The Plan of the Central Nervous System. A Thesis for the Degree of Doctor of Medicine in the University of Cambridge. By ALEX. HILL, M.A., &c., Hunterian Professor at the Royal College of Surgeons of England. Cambridge: Deighton Bell & Co.; London: George Bell & Sons, 1885. Pp. 56.

This Thesis should not be overlooked by psychologists who desire to know the present state of advanced anatomical opinion on the subject of the nervous system. It throws new and striking light upon the structural conditions of the all-pervading processes passing under the names of Reflexion and Inhibition, and gives besides the main results of an original study of the anatomical relations of the different parts of the system, with constant reference to the decisive indications yielded by embryology. The author is able to trace a uniformity of structure in the system from below upwards as far as the optic thalamus, and, having connected with this foremost part of the central grey tube both the optic and olfactory nerves, would group the various cranial nerves (as now distinguished) into "complete" nerves, consisting each, like a spinal nerve, of "sensory, visceral, lateral-motor and anterior-motor parts"; but he pronounces strongly against the possibility of in any way associating the corpus striatum with the thalamus on one level as so-called basal ganglia, declaring it instead to be "an entirely different element belonging to the cerebral hemisphere and certainly not subordinate in function to the cortex but more properly an involuted part of this system". The last part of the Thesis represents the cortex of the cerebral hemispheres, corpora quadrigemina and cerebellum as a peripheral grey tube added to the central grey tube of the system and not split off as a mere layer of this by a tube of white fibres intervening; and the author then attempts to show, generally, what segments of the cerebral cortex (to which for the present he limits himself) are connected with the several "metamers" of the central tube, founding upon one chief assumption, for which he seeks to adduce proof, that the hemispheres have undergone a rotation backwards into a single spiral coil. Pending the farther development of his present results and the sifting they may receive at the hands of other investigators, they certainly serve to suggest grave doubts whether a good deal of the psychology upon which physiologists have ventured will not have to be reconsidered.

On the Sensations of Tone as a Physiological Basis for the Theory of Music. By HERMANN L. F. HELMHOLTZ, M.D., &c. Second English Edition, Translated, thoroughly Revised and Corrected, rendered conformable to the Fourth (and last) German Edition of 1877, with numerous additional Notes and a new additional Appendix bringing down information to 1885, and especially adapted to the use of Musical Students, by ALEXANDER J. ELLIS, F.R.S., &c. London: Longmans, Green & Co., 1885. Pp. xix., 576.

The distinctive features of this second edition are compendiously given as above by the translator. No scientific work of this generation was more worthy of all the pains, in the way of faithful rendering and supplemen-

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tary enrichments, which the most competent of interpreters has now twice lavished upon it. But the book needs to be seen before the full extent and also the remarkable quality of Mr. A. J. Ellis's labour can be appreciated. The appendices from p. 430 to p. 556 are wholly his work, while the foot-notes to text and to author's appendices amount perhaps to little less than half the quantity of the original. The erudition and scientific insight displayed are equally remarkable.

Esoteric Buddhism. By A. P. SINNETT, Author of the *Occult World*, &c. Fifth Edition, Annotated and Enlarged by the Author. London: Chapman & Hall, 1885. Pp. xxvii., 239.

The Purpose of Theosophy. By Mrs. A. P. SINNETT. London: Chapman & Hall, 1885. Pp. 107.

Five Years of Theosophy. Mystical, Philosophical, Theosophical, Historical and Scientific Essays, selected from *The Theosophist.* London: Reeves & Turner, 1885. Pp. 575.

After the similar works noted in the last two Nos. of MIND, pp. 301, 464, the appearance of these others is also to be recorded. The new matter in this latest edition of *Esoteric Buddhism* (which has a certain prerogative character in the class) is considerable in amount. The second book, if it need not have been written, is short. The third, sufficiently described in title and sub-title, gives a good and varied representation of a state of mind.

Scientific Romances. No. II. "The Persian King, or the Law of the Valley." By C. H. HINTON, B.A. London: Swan Sonnenschein & Co., 1885. Pp. 33-128.

Mr. Hinton's second "Romance" is more of a romance than his first (see MIND XXXIX., 467), and is altogether a more ambitious piece while yet somewhat less effective. At least, if the long apologue that fills Part i. (pp. 33-101) is not meant to convey an independent moral or is meant less to do this than to enforce, by way of impressive analogy, the speculation of Part ii. concerning the ultimate nature of action and change in the universe, it is doubtful whether more is not lost than gained for this end by all the ingenuity displayed in imagining the wonderful tale of the Persian king. It is not possible to convey in a few words the exact idea of the very well written story; but of the chapters at the end, dealing with the phenomena of motion in the world under the four aspects distinguished by the author as Permission, Causation, Conservation of Energy and Level, it is to be said (as of the earlier piece) that they are extremely suggestive and that they evince a power of philosophical reflection upon current scientific conceptions that should be heard of farther.

The First Three Years of Childhood. By BERNARD PEREZ. Edited and Translated by ALICE M. CHRISTIE. With an Introduction by JAMES SULLY, M.A. London: W. Swan Sonnenschein, 1885. Pp. xxiv., 294.

A superior translation of the second edition of M. Perez's *Trois premières Années de l'Enfant*, reviewed, on its first appearance, in MIND XII. M. Perez led the way in systematically following up the initiative given (or renewed) two or three years before by M. Taine and Darwin to psychological observation of children, and, among all the literature produced later, his work retains distinctive merits which justify its being singled out for translation. Mr. Sully, who has himself been a worker in this part also of the psychological field, gives in an Introduction (pp. ix.-xxiv.) an interesting sketch of what has been done and remains to be done in it;

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reminding his readers at the end "that there is an English journal of psychology, the Editor of which has proved his readiness to publish contributions to the young and promising science of baby-lore".

Philosophical Dialogues and Fragments. From the French of ERNEST RENAN, Member of the Institute. Translated with the sanction of the Author by RÂS BIHÂRÎ MUKHARJÎ. London: Trübner & Co., 1883. Pp. xxxi., 181.

This translation, which appears to have been published two years ago, has only now come to hand. The original was reviewed in MIND XIII. The English does not need the apology which the Bengali translator modestly makes for it. He writes so well in general that, even when dedicating the volume with enthusiasm to its author, he ought to have been able to refrain from calling it "his own lovely child clad in poor garments".

The Religion of Philosophy, or the Unification of Knowledge: A Comparison of the chief Philosophical and Religious Systems of the World, made with a View to reducing the Categories of Thought or the most general Terms of Existence to a single Principle, thereby establishing a true Conception of God. By RAYMOND S. PERRIN. London: Williams & Norgate, 1885. Pp. xix., 566.

Language being "responsible for the extravagances of human belief," it is only by an analysis of language that the true belief can be determined. "The central truth of language is that it is an elaboration of the single principle of motion." The "universal fact of motion" has for its "terms or aspects" "the primordial inferences known as space and time". A unification of knowledge founded on this universal fact is "the natural consequence of the intellectual and moral development of the race". Part i. ("The Scope of Language," pp. 3-207) traces this development from "the dawn of philosophy" (c. i., Thales, Anaximenes, &c.) to "the eclecticism and positive philosophy of France and the Scotch school" (c. viii.). The author finds "the metaphysical speculations of Berkeley and Hume tame and uninstructive" (p. 140). Kant's *Kritik* is "a monument of logical subtlety, and, at the same time, an incorrect and hopelessly confused analysis of Mind" (p. 166). Hegel's idealism is "a great truth badly expressed" (p. 178). Part ii. (pp. 211-363) deals with "the Nature of Perception". The first four chapters (ix.-xii.) are devoted to an examination of Mr. Spencer's philosophy; the last four to an equally detailed examination of the philosophy of G. H. Lewes, who, it is found, "clearly recognises the ultimate fact of motion, the union of the dynamical and statical aspects of the universe, the one fact of which time and space are respectively the subjective and objective aspects" (p. 343). Part iii. ("The Religion of Philosophy") begins with a chapter on "Superstition and Mystery" (c. xvii.), proceeds to sketch the history of religion from "the Religions of Egypt and India" to "the Religion of Christ," and then, after a chapter on "the Science of Morality" (c. xxiii.), ends with an "Appeal to the Women of America on behalf of the Religion of Philosophy" (c. xxiv.).

Active Principles; or Elements of Moral Science. Mental Feelings—Volitions—Moral Perceptions and Sentiments. By JOHN H. GODWIN, Hon. Prof., New Coll., Lond. London: James Clark & Co., 1885. Pp. xii., 304.

The author, having formerly (see MIND XXXVII., 143) dealt with "intellectual," now passes to "active" principles. These are "Mental

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Feelings," including "contemplative" and "practical" feelings, and "those which regard animate beings, as Affections" (Part i., 7-122), "Volitions" (Part ii., 125-194), "Moral Perceptions and Sentiments" (Part iii., 197-304).

The Nature of Mind and Human Automatism. By MORTON PRINCE, M.D., Physician for Nervous Diseases, Boston Dispensary, &c. Philadelphia: Lippincott, 1885. Pp. x., 173.

An enlarged edition of a graduation thesis. The author conceives his conclusions as to the relation of mind and body to be identical with those of Clifford, whose writings, however, he did not know at the time of writing. The view he maintains is "that every state of consciousness is not," as Mr. Spencer holds, "a mode or manifestation of an unknown Reality, but is the Reality itself" (p. 74). He finds much to object to in Prof. Huxley's statement "that consciousness is related to the mechanical working of the body simply as a collateral product of its working". The molecular disturbances in the brain which are said to be the cause of motions of the limbs "are *in reality* consciousness, and hence consciousness is just as much the cause of the 'working of the body' as these molecular disturbances" (p. 108). This doctrine he thinks ought to be called materialism. "To show that matter is something else than we have supposed it to be is not to remove it to the realms of spiritualism. . . . Any doctrine which rests content with nature, and does not introduce any supernatural element, is materialism" (p. 152).

La Légende tragique de Jordano Bruno. Comment elle a été formée—Son Origine suspecte—Son Invraisemblance. Par THÉOPHILE DESDOUITS, Professeur de Philosophie au Lycée de Versailles, Docteur ès Lettres. Paris: E. Thorin, 1885. Pp. 27.

The thesis which the author sets himself to prove is that the accepted account of the death of Giordano Bruno is only a legend, "a marvellously dramatic legend, an admirable text for the declamations of hatred and prejudice, but unworthy of being received as serious by a historian or a philosopher". He contends (1) that there is no contemporary evidence that Bruno was burnt by the Inquisition except the letter of Scioppius; (2) that there is no proof of the genuineness of this letter; (3) that it is *a priori* improbable that the Roman Inquisition, so well known for its mildness (in contrast with the severity of the Inquisitions of Spain and other countries), should have condemned Bruno to be burnt without more being said of the event by contemporary writers. The most probable hypothesis is that he ended his life in a monastery of his order. It is to be remarked first of all that, whatever might have been the plausibility of M. Desdouits' arguments in themselves, his main contention is no longer a matter of discussion. Among the last set of documents published by Berti, of whose Life of Bruno, although it appeared in 1868, he seems never to have heard, is an official report of Bruno's death. Otherwise, M. Desdouits' arguments are of no value as a contribution to historical criticism. His first position is really disposed of by himself in an "additional note," although he still tries to maintain it by a series of gratuitous hypotheses. When the piece was already printed, "a learned critic" "objected a line of Mersenne," in a book printed at Paris in 1624, referring to Bruno as "an atheist burnt in Italy". If the learned critic had allowed M. Desdouits to see the book itself, instead of only mentioning the "line" "which escaped Brucker, and of which Bayle, who knew it, took no account," he would have discovered that in this book Mersenne sets himself to refute in detail the two most important of Bruno's dia-

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logues. The reference in *L'Impiété des Déistes* to Bruno's fate had not escaped Bartholmèss, with whose book M. Desdouits is acquainted; indeed, he quotes a passage of several lines in which Mersenne expresses his approval of the condemnation of Bruno. When all this is borne in mind, the argument to show that the testimony of Mersenne may be a mere echo of a report set going by the letter of Scioppius loses the little coherence it had. There is, besides, another piece of evidence which carries the origin of the "legend" to a still earlier date. In a letter, dated 5th April, 1608, Kepler (*Opp.*, ed. Frisch, ii. 596), replying to a correspondent, tells him the circumstances of Bruno's death and the name of his informant; this was overlooked by Bartholmèss, but has been pointed out by Berti. As regards the letter of Scioppius, it is strange that M. Desdouits should not have seen the note in Vol. i. of Bartholmèss, in which the whole question of the genuineness of this letter and of the grounds for accepting the testimony of Scioppius is adequately discussed, or that, if he has seen it, he should say that Bartholmèss merely assumes the genuineness of the letter. The effect of the author's own arguments in support of his conjecture that the letter was forged by a German Lutheran to calumniate the Roman Inquisition is entirely to confirm the judgment of Bartholmèss:—"Concluons que si la lettre n'a qu'une autorité suspecte, il faut renoncer à l'étude de l'histoire et déclarer la critique des monuments écrits illusoire et impuissante". Perhaps it is not absolutely necessary that the author of an attempt to prove that Bruno was not burnt should know anything of his writings; but, merely from the literature he refers to in his notes, M. Desdouits ought to know that the *Spaccio della Bestia trionfante* is not accurately described as "a violent book against the Pope".

Recherches expérimentales sur le Mécanisme de Fonctionnement des Centres Psycho-moteurs du Cerveau. Par le docteur J. M. L. MARIQUE, Chef du service des autopsies à l'hôpital Saint Jean. Thèse d'Agrégation presentée à la Faculté de Médecine de Bruxelles. Bruxelles: G. Mayolez, 1885. Pp. 140.

Some time has passed since note was last taken in MIND of work upon the localisation of cerebral functions. Goltz's results, recorded at some length in Nos. V., VI., XVIII., have not so stood the test of farther inquiry as to retain the importance they seemed to have at first as negative evidence against the case of the localisers. The subject, as it has now been advanced by the varied labours of later investigators, may, it is hoped, soon be taken up again in these pages. Meanwhile attention is called to the present Thesis as having an exceptional value for any discussion of the question that may follow. The author has original results of his own, obtained by a new way of experiment, to bring forward, but, in the earlier half of his work, he first sets himself to prove the existence of the cerebral psycho-motor centres by a historical and critical review of all the work that has been done upon the subject. This review is, for its compass (pp. 60), remarkably exhaustive and the criticism is acutely reasoned. Going on, in the second half, to discuss the exact function of the psycho-motor centres, he gives prominence to the various sets of "fibres of association" by which they are, in their median position, brought into relation with the other parts of the cortex before and behind, and his "method of isolation," by which he cuts, at will, all or some of the sets of fibres, is then explained. He gives results only in dogs, whose low frontal development affords ground for no more than partial inference to man; but the results seem to establish a relation, by means of association-fibres, between the psycho-motor centres and the sensory centres lying behind them, distinctly comparable with that between the motor and so-called

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sensory ganglia which determines reflex action in the cord below, while a supplementary clinical note of one human case points to a similar relation in the forward direction also. The demonstration of the uniform character of the whole system, high and low, is indeed the general conclusion which the author seeks to draw. Incidentally there is a good deal of reference — sometimes of a striking kind—to the problem of consciousness, which he now sees to be inextricably involved with his physiological inquiry and then again would seek to exclude in the interest of a thoroughgoing materialistic conception. Further remark on this or other features of his present work is reserved till the publication, which he promises, of a similar series of original experiments on the sensory centres.

FÉLIX RAVAISSON. *La Philosophie en France au XIX^e^ Siècle.* (1867.) Deuxième Édition suivie du Rapport sur le Prix Victor Cousin ("Le Scepticisme dans l'Antiquité"), 1884. Paris: Hachette, 1885. Pp. 330.

The author's point of view in the Report (pp. 285-323) which is added to this second edition of his review of the French philosophy of the 19th century remains unchanged from the first publication of that work, and indeed from the appearance of his essay on *The Metaphysics of Aristotle* (1837-40). It is in Aristotle first of all that he finds the doctrine which he calls "spiritualistic positivism"—the doctrine that the true substance of things is the activity of thought. This is the subject of metaphysics and is above both material relations and the abstractions by which the understanding measures them. Christianity, in revealing a moral life beyond the physical and even the intellectual life, made it possible to see in "will" (as distinguished from intelligence) the explanation of the Aristotelian "act". At the beginning of modern philosophy, Descartes, by his distinction of the active will from the passive intelligence, introduced as a new attribute of the superior or spiritual principle Infinity, which antiquity, preoccupied with the character of the mind as determining and determined, had attributed only to the material principle. "Infinity, for the first time, becomes the character of the soul, still more that of God; infinity found in the perfect and absolute will." This conception was further developed by Leibniz and Kant. In the philosophy of the present century, even in that which seems most hostile to his general conception, the author discovers a return towards it. Everywhere he finds a tendency to reduce efficient causes to final causes, to see in fatality only the appearance, in spontaneity the reality, and in nature "a refraction or dispersion of spirit". In his report on the four essays sent in for the Victor Cousin prize (1884), M. Ravaisson contends that Scepticism (at least that of antiquity), is powerless against a philosophy which, unlike the semi-materialistic doctrine of the Stoics, finds its principle of explanation in the activity of the mind itself. No principle which is the object of imagination can resist Scepticism; those only can resist it which are the objects of pure intelligence (p. 305). Hence Kant, as well as Plato, failed to conceive perfectly the true philosophic method of reflection (which is, above all, that of Aristotle, Descartes and Leibniz), "in which the mind finds in the apperception it has of its own operation an indivisible unity, and in this unity the true reality". But the Platonic doctrine according to which the idea of the good is higher than all other ideas, and that doctrine of Kant which places the practical above the speculative reason, are in a sense to be admitted. The author anticipates to some extent the objection that a metaphysics of this kind is out of relation to science; contending that biology, for example, has always been regulated by the idea of final cause, and physics, the science which is most material in its

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objects, by the ideas of harmony, of beauty, and even by moral ideas (p. 315). The combination of experiment and observation with calculation, which is the method of modern science, "in spite of the prejudice, to-day so widely diffused, of the absolute independence of science with regard to philosophy, is in reality only an application to the knowledge of nature of those metaphysical conceptions which ancient Scepticism proclaimed and which Positivism still proclaims to be absolutely inane" (p. 303).

Le Principe de la Morale. Par CH. SECRÉTAN, Membre correspondant de l'Institut de France. Lausanne: A. Imer, 1884. Pp. 384.

"The principle of morality," stated as a theorem, is, "I recognise myself, as a free element of a whole". This whole is humanity, regarded as a species. From the point of view of the isolated individual no principle, not even that of "charity" or "justice," is satisfactory; but when the "solidarity of the species" is recognised, even individual "interest" or "perfection," taken no longer in abstraction but in relation to experience, may be made a starting-point for the construction of morality. The *a priori* element in morality is the feeling of obligation to act conformably to our own nature as part of a whole and to the nature of things. This requires that we should know the nature of things; hence the experiential element in morals. The motive determining us to seek scientific knowledge is thus seen to be first of all a practical motive. Reason is only a mode of will, which is the essence of the species and the foundation of all being. Knowledge is not an absolute end, but has its last reasons and its supreme ends in the moral order. Neither the doctrine of free-will nor that of determinism is capable of scientific proof; but the existence of free-will in man is a postulate of the moral life, while determinism is only a "postulate of scientific curiosity": the author, therefore, "believes in the primacy of the practical reason and votes freely in favour of the will" (p. 89). The absolute, universal authority of the moral law requires that there should be a moral power at the base of the universe. The old problem of theodicy, then, presents itself. How is the natural order, which is often apparently unjust, to be reconciled with the moral order? This question is solved by "charity". When we regard ourselves no longer as independent wholes but as parts of humanity, we see that the faults of all the rest of the human race, so far as they affect us, are really our own, and that we are, in truth (since we possess free-will), responsible for the moral evil in the world (which is the only kind of evil that presents any difficulty). "Thus the conception of the world to which we are conducted by the legitimate and necessary purpose of finding an explanation of phenomena compatible with the exigencies of the moral consciousness, naturally binds itself to the religious traditions of our civilisation" (p. 272). Religion is "the central function" of human life, "the supreme order" in which the natural and the moral order are reconciled. According to what laws, the author asks, does the moral order manifest itself in nature? Starting with the proposition that physical causality is to be attributed to the will, he arrives at the doctrine that the real efficacy of "the moral will" is in "the power of prayer". The granting of prayers is "a miracle assuredly, but a miracle which is accomplished according to an immutable decree" (p. 372). "When it is known that the whole of humanity lives in reality with the same life, of which the principle is in God, it will no longer be thought strange and incredible, but on the contrary highly probable and natural, that individual wills act on one another, perhaps immediately, or at least by intermediaries more rapid, more subtle, and more efficacious than muscular activity and mechanical force" (p. 375). The direct action of wills on one another is indeed a fact of universal experience, although science has not

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yet frankly recognised it (p. 377). Is it not, then, "reasonable to think that the most energetic action of one individual on another will be exercised along a line which passes through their common centre, that is to say, will be prayer, and that this action will be more powerful in proportion to the intimacy of the relation between him who seeks to exercise it and that centre itself, that is to say, in proportion to his sanctity"? The chief difference between M. Secrétan's present work and *The Philosophy of Liberty*, published forty years since, is, he says, that "God is no longer the point of departure but the term" (p. 11). Other differences between the earlier and the later work are in expression more than in substance. At the same time identity with positions taken up in the earlier work is not to be presumed without examination.

GIACOMO BARZELLOTTI. *David Lazzaretti di Arcidosso detto il Santo, i suoi Seguaci e la sua Leggenda.* Bologna: N. Zanichelli, 1885. Pp. xv., 322.

By this careful psychological study of the phenomena that have accompanied the propagation of a new religion in modern times, the author seeks to throw light on the origin of religions generally. He has investigated all the facts relating to David Lazzaretti of Arcidosso, who only a few years since was at the head of a body of believers in his mission as a new Messiah. Lazzaretti is held to have predicted the manner of his death; and his followers now believe in his speedy return and in the approach of the millennium. The author finds in Lazzaretti himself "a Mahomet of a Tuscan village," and in a "Lazzarettist" "a millennarian of the first Christian generation". He has read all the writings of Lazzaretti that he has been able to obtain; but describes them as less characteristic than his life "as man of action, agitator, party leader". They to a certain extent continue the tradition of mediæval mysticism (as represented above all by Joachim of Flora); to a still greater extent they are a spontaneous reproduction of the same modes of thought independently of all knowledge of similar ideas in the past. The author also finds analogies between Lazzaretti's prediction of a "kingdom of the Holy Ghost" and Hartmann's view that all positive religions must as the result of indefinite progress be transformed into a "religion of the immanent spirit".

ANGELO MOSSO. *La Paura.* Milano: Fratelli Treves, 1884. Pp. 309.

This is at once a physiological study of fear and a discussion of the nature of expression generally. The author's position may best be put in his own words. "It is in the tissues, in the properties of the living substances that constitute our machine, that we must seek the reasons of many phenomena which Darwin made to depend on external causes, on selection or on the environment" (p. 22). Both Darwin and Mr. Spencer have looked at the facts too little from the physiological point of view, and have regarded the organism as capable of spontaneous variation and conscious adaptation within limits wider than seem possible to the younger and "more mechanical" school of physiologists. Mr. Spencer's explanation of contraction of the eyebrows as a movement originally found advantageous in combat and therefore preserved by natural selection, is quoted as a typical example both of his own mode of explanation and of Darwin's more elaborate treatment in the *Expression of the Emotions.* If for an advantage so slight as is given by contraction of the eyebrows there is a complicated muscular apparatus, how is it, the author asks, that the serious disadvantage caused by dilatation of the pupils under the influence of fear is not remedied? He replies that in the organism there is a hierarchy of parts and functions; that among these, from the necessary conditions of the organism, the vascular system must preponderate; and

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that the circulation must be regulated in such a way as to allow the nervous centres, when their substance undergoes disintegration from any cause, to draw from the blood as much nutriment as possible. These general organic conditions bring about incidental disadvantages. During strong emotion, as fear, for example, there is disintegration of substance in the brain; in accordance with the physiological law, blood is withdrawn from the periphery; the vessels of the eye, and, in particular of the iris, contract; the pupil dilates, and, as a necessary consequence, clearness of vision is much impaired. Thus limits are imposed within which the action of selection and adaptation must be restricted. The author offers an explanation of contraction of the eyebrows depending on the physiological principle of the non-restriction of nervous discharges to the group of muscles immediately affected. The movements of contraction, being primarily "movements of attention" required in order to see an object with the greatest possible distinctness, become associated with feelings of effort generally and hence with emotions in which pain is an element. The grounds of the author's physiological explanations of more complex phenomena are to be found above all in his experimental studies of the effects of the emotions (and especially of fear) on the circulation and respiration (cc. iv.-vii.). The methods of experiment are to a great extent due to the author himself. In cc. i.-iii., he gives a preliminary account of the functions of the brain and spinal cord; cc. viii.-xiv. complete the book by a descriptive treatment of the remaining phenomena of fear. All the phenomena of fear, it is concluded, are nothing but the morbid exaggeration of ordinary physiological facts; in its higher degrees, fear may be regarded as a disease.

Opere postume di PIETRO CERETTI. Vol. I., *Considerazioni sopra il Sistema generale dello Spirito e circa il Sistema della Natura entro i Limiti della Riflessione.* Vol. II., *Proposta di Riforma sociale. Considerazioni generali circa la caratteristica Spiritualità dell' Italia. Introduzione alla Coltura generale.* Torino: Unione Tipografico-Editrice, 1885. Pp. xvi., 252; 159.

These are two volumes of a long series of works written by the author in the course of a period extending from 1847 to 1884, nearly all of which he allowed to remain unpublished during his lifetime. Of the five pieces included in these volumes all except the *Introduction to general Culture* (1881) were written in 1878. The first of them, entitled *Considerations on the general System of the Spirit within the Limits of Reflection* (i., pp. 1-171), expresses the author's most characteristic ideas in the form of a kind of philosophy of history which starts from a point of view resembling that of Hegel. "The panlogical system," he says, "contains without doubt the necessary truths, but it contains them as they are thought, or in the specific form of logical thought, not in that of the other spiritual faculties". The last results of the author's own philosophy are that "the absolute is consciousness" and that "Spirit is a historical moment of a more general consciousness". "The three categories that constitute the true essentiality of the objective spirit" are (1) Law, (2) Morals, (3) Culture. Morals may be defined as "the soul of law," culture as "the soul of the thinking spirit". The last stage of progress is that of a culture in which all knowledge has become explicit—in which questions of right and wrong, for example, are no longer judged according to inherited instincts, but with reference to principles, dispassionately, and with full consciousness. The second of the pieces contained in vol. i. is a general view of the sciences from mathematics to biology; the sciences of man being excluded from a review of "the natural disciplines" as in a sense "supernatural" because

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"spiritual," and capable of treatment only from the point of view of "the concrete *ego* of the human subject".

Psychologische Studien. Von Dr. THEODOR LIPPS, Professor der Philosophie in Bonn. Heidelberg: G. Weiss, 1885. Pp. 161.

Four essays containing a fuller discussion of points already treated of in the author's *Grundtatsachen des Seelenlebens*, reviewed in the present Number. The problem of the first essay ("The position of visual impressions in the field of view") is to show why—(1) apparent distance of two external points increases with distance of the points corresponding to them in the retinal image, (2) any two fixed points in the field of vision are seen at nearly the same apparent distance from one another, on whatever part of the retina they may be imaged. The explanation given of the first fact is that points that are nearer one another are in general oftener affected by objectively like stimuli, points that are more distant by objectively different stimuli. From qualitative likeness and difference of impressions, corresponding to this objective likeness and difference of stimuli, result in course of time constant groupings of impressions felt by neighbouring retinal points and constant separations of impressions felt by more distant points. On the same principles, the second fact is explained by the consideration that in general equally distant points of the retina are affected equally often by objectively like (or objectively different) stimuli. In the second essay ("The continuity of the field of vision and the filling up of the blind spot") the author argues for "a system of psychical irradiation comparable to that of physiological irradiation, only of more comprehensive nature". In the next essay ("The space of visual perception and the third dimension") he undertakes to show that visual space is "a superficies of indeterminate form" and that the consciousness of depth remains "merely thought, conviction, knowledge, not perception" nor even representation (p. 84). The fourth and longest essay (pp. 92-161) is an investigation of the nature of musical harmony and discord. The author's theory is, briefly, that the ground of all harmony and discord is the direct relations of the rates of vibration of simple tones. Whenever one mental process tends to support another there is a ground of pleasure; all opposition between mental processes is a ground of pain. For this reason, simultaneous repetition of rhythms that are in a simple relation and can therefore easily be followed at the same time, gives a sense of pleasure; repetition of rhythms that are in a complicated relation, a sense of constraint, that is, of pain. Tones of which the rates of vibration have some simple relation to one another, result from rhythms that could easily be followed simultaneously if we were conscious of the separate impulses of which they are made up. If, as we must assume, what is true of conscious rhythms remains true of the rhythms of unconscious mental processes, then musical tones must similarly support and oppose one another. The sense of pleasure or pain that accompanies this mutual support or opposition is, in the case of tones, the sense of harmony or discord. In defending his own theory the author has to discuss those of Helmholtz and Wundt. Against Helmholtz he contends that "beats," although a cause of "roughness," have nothing to do with discord properly so-called. For if the roughness caused by beats were identical with discord, then discord and harmony (and, consequently, pain and pleasure, of which these are particular forms) would only differ as more and less. The explanations, common to Helmholtz and Wundt, that make harmony and discord depend on relations of overtones seem to Dr. Lipps superfluous if his own simpler explanation is accepted, incapable of explaining anything if it is rejected. It is not put forth as original, but as a restatement and justification of the doctrine held implicitly by musicians before the theories of Helmholtz and Wundt.

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Die Religion der Moral. Von WILLIAM MACKINTIRE SALTER. Vom Verfasser genehmigte Uebersetzung herausgegeben von GEORG VON GIŻYCKI. Leipzig; Berlin: W. Friedrich, 1885. Pp. 363.

These addresses (translated by several hands), which were originally read before the "Society for Moral Culture" in Chicago, are introduced to German readers by Prof. v. Giżycki as likely to appeal specially to the German national character, and in particular as pointing to the true solution of "the social question" now central in Germany as elsewhere. The author believes that morality when carried to its highest expression in an ideal which is regarded with enthusiasm and has become a motive to action, constitutes a religion capable of taking the place of all the supernatural religions. The moral ideal has no actual existence anywhere; being indeed that which ought to exist as distinguished from that which does exist. It is precisely this non-existence of the ideal that gives it its practical significance. The thought that is at the bottom of the Christian conception of "the kingdom of God" is of ever-enduring interest and value; but Christianity has nothing definite to say in relation to the needs of the present time. It ignores the intellectual virtues and political morality. "The Stoic maxim and not that which is contained in the life of Jesus must give the rule for human life: *πολιτεύεσθαι τὸν σοφόν.*" No external rearrangement of society can solve the industrial problem of modern times, but only a new religious impulse; and this must consist in enthusiasm for an ideal of social equality. The social ideal of equal justice is ignored by Christianity even in those forms of it from which theological dogma has disappeared. But fulfilment of the ordinary duties of life, to which liberal Christianity and Judaism tend to reduce religion in practice, is not really sufficient to constitute a religion. To transform morality into religion the element of ideal enthusiasm is indispensable.

Grundriss der Sociologie. Von Dr. LUDWIG GUMPLOWICZ, Professor der Staatswissenschaften an der k. k. Carl-Franzens Universität in Graz. Wien: Manz, 1885. Pp. 246.

The general idea of a science of sociology treating of "human history as natural process," which was partially developed in the author's former book *Der Rassenkampf* (noticed in MIND XXXII., 621), is now placed in relation to a view of the method of sociology, its history and its position among the sciences. Sociology differs from "philosophy of history" in making the attempt not to grasp the course of history as a whole,—an attempt which can only end in failure,—but only to describe a "typical" process which goes on wherever the human race finds itself in certain social conditions that are constantly repeating themselves. "The coryphæi of sociology" are Comte, Spencer, Bastian and Lippert. It is the incontestable merit of Comte to have been the first to arrive at the true conception of sociology as a positive science. Pascal's metaphor that the whole succession of individuals may be considered as a single man is, however, the source of errors in Comte's conception of humanity. Mr. Spencer who, by his constant application of scientific method, is "the true founder of sociology," seems, like the German sociologists, to have been misled by Comte's biological analogy; but "a happy scientific instinct and a sober sense have preserved the English philosopher from exaggerations and errors such as are elsewhere the consequences of false analogies between biology and sociology". Still, even Mr. Spencer has not been able to extricate himself entirely from the false conception of humanity as a unity, although he is often compelled by the logic of facts to explain the beginning of social development by the action on one another of "heterogeneous ethnical elements" (*e.g.*, "social evolution begins with small simple aggregates"). The assumption of a "plurality of primitive hordes" is, in fact, the only

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rational basis of sociology. Conquest of one primitive horde by another results at length in the constitution of the State, which consists of several social groups organised for the performance of different functions and held in union by superior force. From the reciprocal action of society and the individual proceed the "social-psychical phenomena"—speech, morals, law, religion, &c. Independent sciences dealing with these secondary social phenomena existed before the primary science of sociology; but now that sociology is definitely constituted they must all be submitted to a new investigation. Psychology especially will be modified by the influence of sociology. Man as an individual must, henceforth, be regarded as a social product, and society as the primary fact. It is not really the individual that thinks, feels or acts, but society through him; not, indeed, humanity as a whole—for the position of absolute "collectivism" as opposed to "individualism" is untenable—but some larger or smaller social group. From the nature of the relation of the individual to society and of man to external forces the author infers that all supposed power of man over circumstances is illusory. First of all, the character of each man is determined for him by innumerable social influences. Then, what we call "freedom of action," both on the part of states and individuals, consists in the effort to maintain in existence what is destined sooner or later to perish. States themselves, when they have reached their highest point of civilisation, are destroyed either by the action of hostile social groups within or without, or if not by these social forces then by cosmical forces. The result of contemplation of the eternal repetition of the same process, which must always come to the same end, is a "morality of resignation" and abstinence from all plans of political or social reform.

Tertullian's Ethik in durchaus objectiver Darstellung. Von Dr. G. Ludwig. Leipzig: Georg Böhme, 1885. Pp. xv., 206.

This book is divided into three Parts: (1) "The moral life of the Christian in its growth," (2) "The actuality of Christian morality as virtuous disposition," (3) "Christian morality in its proof in action". The doctrines of Tertullian are worked into a continuous exposition according to this scheme, for the most part in a literal translation of his words. "The threefold foundation of Tertullian's ethics" is, according to the author, (1) Revelation; (2), after he had gone over to Montanism, "the New Prophecies"; (3) the Stoic ethics, especially the precept to live agreeably to nature. Also in the psychological foundation of Tertullian's ethics, traces of Stoic influence are to be found.

Das Gemüth und das Gefühlsvermögen der neueren Psychologie. Von Joseph Jungmann, Priester der Gesellschaft Jesu, Doctor der Theologie und ord. Professor derselben an der Universität zu Innsbruck. Zweite, vermehrte und verbesserte Auflage. Freiburg i. B.: Herder, 1885. Pp. x., 219.

Grundlinien zur Aristotelisch-Thomistischen Psychologie. Von Dr. Vincenz Knauer, Bibliothekar des Benedictiner-Stiftes Schotten in Wien. Wien: Konegen, 1885. Pp. 283.

These two books are both written from the point of view of Scholasticism. Dr. Jungmann has made some alterations in his book on the Feelings (first published in 1868) and has added an index; but, as he tells us, he has taken occasion, whenever it was possible, to accentuate his point of view "in the firm conviction that, in fact, as the Encyclical *Æterni Patris* instructs us, confident attachment to the science of the 13th century is the indispensable and at the same time the most effectual means of renewing, raising and bringing to a true bloom theology as well as philosophy and the fine arts". His object is to refute those doctrines of modern psycho-

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logy that have reached their final expression in the division of the mind into feeling, thought and will, and to put in their place the true doctrine,—that of Aristotle and Aquinas. All earlier philosophy, the Socratic philosophy as well as the philosophy of the Middle Ages, recognised only two fundamental faculties of the mind, the "apprehensive" and the "appetitive"; the mental processes we call feelings being always assigned to the appetitive faculty. The modern tripartite division of mind, with the assumption of a separate faculty of feeling, appears for the first time in Tetens, but since Kant's acceptance of it has become, without protest, a received doctrine of German psychology, and has exerted an evil influence on speculative theology, ethics, æsthetics, and especially on the theory of rhetoric. In Section i. (pp. 10-84) the author treats of "the fundamental powers of the human soul" so far as is necessary for his special purpose. Sections ii. and iii. are an exposition of the Scholastic doctrine of the feelings in a form accommodated to the German spirit as manifested in the words *Gemüth* and *Gefühl*, for which no exact equivalent can be found in the terminology of Scholasticism. Thus while regretting, amid the confusion of modern schools, "the clearness, the precision, the depth—in a word, the reasonableness—of the speculation of the 13th century," the author does not simply repeat the distinctions of Aquinas. His exposition is further modified by the effort to incorporate with the Thomistic doctrines the results of modern physiology.

In Dr. Knauer's book the Scholastic doctrine of the feelings finds its place in an exposition of the whole philosophy of Thomas Aquinas. Although his work is offered as a contribution to the history of philosophy, the author would not claim that his treatment is simply historical; for the doctrines that result from the simultaneous examination of Aristotle and Aquinas (or rather of Aquinas in relation to Aristotle) are treated as essentially parts of a single system which is the highest expression of philosophic truth. The Aristotelianism of Aquinas always kept in view the unity of human nature. It was only the "false Aristotelianism" of the close of the Middle Age that thought of the body as regulated by the soul like a ship by the pilot (pp. 91-2). The 'vegetative,' 'sensitive,' and 'intellective' powers are not to be thought of as three distinct souls dwelling apart in the body. The position of Aquinas with regard to the relation of mind and body is explained in detail in the last two chapters (cc. xvi., xvii., "The connexion of body and soul," "The separation of body and soul"). Here we may see the ground of the difference between the modern and the Scholastic doctrines of the feelings. The modern tripartite division of mind is a purely psychological classification; Scholasticism, on the other hand, having divided the "intellective powers" into "intellect" and "will," explains feeling by the interaction of body and "will," that is, by the aid of the philosophical assumption of a dualism of mind and body,—a dualism which, however, as explained above, is not to be understood in an unqualified sense. In the usual Neo-Scholastic way, Dr. Knauer tries throughout to find in the Aristotelianism of Aquinas anticipations of the theories and results of modern science and philosophy.

Ueber philosophische Wissenschaft und ihre Propädeutik. Von Dr. ALEXIUS MEINONG, a. ö. Professor der Philosophie an der Universität in Graz. Wien: A. Hölder, 1885. Pp. xii., 182.

The occasion of these studies is the recent publication by the Ministry of Education in Austria of new directions for the teaching of the subjects that constitute the "philosophical propædeutic" of the Gymnasia. The author (known by his careful *Hume-Studien*) has in view at the same time to defend the interests of philosophy and of philosophical instruction generally. He holds that philosophy is at present suffering for a certain

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arrogance in its claims during the time when a position at the head of the other sciences was accorded to it. An effect of this has been that scientific men have often denied the existence of any philosophy distinct from the special sciences. In the consequences of the scientific reaction against philosophy, however, Dr. Meinong sees hope for the future. Men of physical science, when they no longer recognised any ground reserved for philosophy, were obliged themselves to speculate on the most general questions. They then found that, in speculations about things as a whole, a new element appears which in their own researches they are accustomed to ignore, *viz.*, the element of consciousness. On the other hand, the attempt to solve philosophical questions by the methods of physical science showed philosophers what field of research is really outside the competence of students of organic and inorganic nature. They were brought to see the special importance for philosophy of the mental side of phenomena, and hence of the science of psychology, which (outside England) had frequently been excluded from philosophical consideration as "merely empirical". The general result of this movement of thought must be that psychology will obtain the dominant position due to it among the philosophical disciplines and that philosophy will no longer be denied a place by the side of the special sciences. Dr. Meinong recognises in the new official scheme an acceptance of the point of view of "scientific philosophy," shown especially in rejection of the old plan of beginning with the history of philosophy, and in prescription of the elements of psychology and formal logic as the subjects of which systematic knowledge is to be required; but he contends that, as a matter of fact, adequate preparation in the subjects prescribed is made impossible by the way in which the new scheme is worked out, above all by the shortness of the time allowed for psychology. He argues strongly against the directions to teachers to confine themselves to established truths and avoid uncertainties, showing in an appendix (pp. 169-182) that much must always be left to the tact of the teacher even in subjects like Greek and Latin grammar and mathematics. For the rest, the uncertainty of psychology as compared with other sciences has been exaggerated; and in any case its educational value in other respects compensates for want of fixity in results. The author does not despair of seeing reforms that shall make possible the acquisition of a philosophical groundwork in the Gymnasium, and refers to Dr. Paulsen's *Geschichte des gelehrten Unterrichts &c.* (see MIND XXXVIII. 312) as one among other evidences that in Prussia reforms such as he advocates are in no want of influential voices in their favour.

Philosophie der Geschichte. Von GUSTAV BIEDERMANN. Prag: F. Tempsky; Leipzig: G. Freitag, 1884. Pp. xlix., 386.

Philosophy of history is defined by the author as "the science of the concept in history". The philosophical treatment of history is the last of three possible modes of treatment; the others being (1) the "naïve," (2) the "critical" writing of history. These correspond to the three stages of human thought as (1) "Vorstellung," (2) "Gedanke," (3) "Begriff". In philosophy of history the character of States is to be viewed as determined by the character of the race and by national character. Among the factors of the individuality of peoples the study of climate and geographical surroundings is not to be neglected; but it is in language especially that the distinctive character of the mind of each people is to be sought. Following upon the history of particular States, which is the last part of the history of peoples, there is the international history of States; this is the highest determination of the development of human life. The book is divided into two parts, dealing respectively with ancient and modern history. The great distinction between the ancients and the moderns (or, more strictly, between Paganism and Christianity) is, in the

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author's opinion, that Paganism finds God only in nature, Christianity in the human mind also. Of the three chief peoples of modern times, the Germans, the Romance peoples and the Slavs, the Romance peoples, more characterised by "Gemüth" than "Gewissen," were the first to undergo the influence of the ancient civilisation and to form national individualities, but without much independent activity of thought. The Germans, later in undergoing this influence and less passively receptive of it, were able to carry further the lessons of their teachers; and to the development of the German spirit Protestantism is due. It was the error of the Catholic period to make Church and State alike in extent and significance: the religious idea is really outside and above the political idea, but the idea of the Church finds its value only in the universality and unity of the idea of the State. Till lately the Romance peoples had the lead in politics, the Germans in speculative thought. The Germans, although they have now taken the lead in politics also, will not be able to forget that the chiefs of modern thought are Kant and Hegel, and that to find thinkers of equal rank we must go back to Plato and Aristotle. German philosophy is now on the way to open "a new world of the spirit, the world of the concept". The first result of this will be a new development in theology of the Christian conception "that God the Spirit is the Spirit as God," a conception which sums up in itself "all philosophy of religion, all religion of philosophy".

Der Papua des dunkeln Inselreichs im Lichte psychologischer Forschung. Von Adolf Bastian. Berlin: Weidmann, 1885. Pp. xx., 368.

Having last dealt with "the part of Africa that has lately been brought nearer German interests," the indefatigable author is now going on (not without a similar reason) to study the mythology, religion, institutions, &c., of the Australasian peoples, and takes again occasion to urge how his research is intended as a contribution to the inductive treatment of psychology "according to comparative-genetic methods". Man as the object of a natural science of psychology presupposes society; and uncivilised peoples are to be studied for the sake of the light their modes of thought and institutions throw on apparently abnormal features of civilised societies. Especially in the case of classical religion and mythology, may we expect to gain insight by the study of primitive modes of thought as observed in the lower races. In order that progress may be made in this line of study it is especially necessary to distinguish accurately between religion and mythology. Every individual has a religion or the elementary disposition for it, every people a mythology; but as there are unimaginative individuals without taste for mythology, so there are peoples without a religion. For example the Greeks, as a race, had no religion (except perhaps an æsthetic one); individuals obtained from the teachings of philosophers or from the mysteries a religion of their own.

Grundlegung zur Reform der Philosophie. Vereinfachte und erweiterte Darstellung von Immanuel Kant's *Kritik der reinen Vernunft.* Von Dr. Heinrich Romundt. Berlin: Nicolai'sche Verlagsbuchhandlung (R. Stricker), 1885. Pp. vi., 264.

The aim of this exposition of the results of the *Kritik* is to show what must be the nature of the metaphysical doctrine which was to proceed from them, but which Kant himself did not develop. The author tries to explain how it came about that, while Kant's object was to give metaphysics the security and uniformity of method that characterise the natural sciences, and especially physics and mathematics, there have been more divisions among philosophic schools since his time than before. The teaching of Schelling and Hegel, but above all of Fichte, has, he considers,

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been injurious to philosophy. What Fichte did was to put rhetoric and "sophistic" in the place of scientific method. Nevertheless, the Kantian criticism is not only the first real step forward taken by philosophy, but it is a step that can never be retraced. Kant has made room for two fundamentally different kinds of knowledge, "natural science" and "metaphysics," to exist side by side. Metaphysics serves as "the foundation for the sciences of man, for morals and religion, and is the porch of Faith". Thus, the "reformed philosophy," founded but not completed by Kant, begins with mathematics and physics, and ends with "Religionslehre"; making the union of scientific knowledge with that which was a common possession of all men before the appearance of any kind of science.

Aesthetik. Die Idee des Schönen und ihre Verwirklichung im Leben und in der Kunst. Von MORIZ CARRIÈRE. Dritte neu bearbeitete Auflage. I. "Die Schönheit. Die Welt. Die Phantasie." II. "Die bildende Kunst. Die Musik. Die Poesie." Leipzig: F. A. Brockhaus, 1885. Pp. xxii., 627; xiv., 616.

We now only mention the appearance of this third and considerably altered edition (second edition, 1872; first, 1859), of a standard work, which should be better known outside of Germany. Critical Notice will follow.

On the Ethics of Naturalism. ("Shaw Fellowship Lectures, 1884.") By W. R. SORLEY, M.A., Fellow of Trinity College, Cambridge; and Examiner in Philosophy in the University of Edinburgh. Edinburgh and London: W. Blackwood & Sons. Pp. 292.

This *forthcoming* volume consists of the third quinquennial course of Shaw Lectures—delivered in the University of Edinburgh in January, 1884. The argument of the lectures has been revised since their delivery; and is now divided into nine chapters: Ethics and its Problems; Egoism; the Transition to Utilitarianism; Moral Sentiment; the Theory of Evolution and the Development of Morality; Evolution and Ethical Theories; Hedonism and Evolutionism; the Evolutionist End; the Basis of Ethics. The fundamental ethical question of the end of conduct is made prominent throughout; and its connexion with ultimate philosophical conceptions is examined, so far as these conceptions are founded on a naturalistic basis. The ethical theory of Evolution receives special attention, as regards both its relation to other systems of morality and its independent contribution towards determining the ethical end.

RECEIVED also:—

W. Wynn Westcott, *Suicide*, London, H. K. Lewis, pp. x., 191.
M. Davies, *Body and Soul*, London, Elliot Stock, pp. 24.
Th. Funck-Brentano, *Les principes de la Découverte*, Paris, Plon, pp. vi., 264.
B. Faug, *Les vraies Bases de la Philosophie*, Paris, E. Dentu, pp. 323.
F. Maltese, *Cielo*, Vittoria (Sicilia), G. B. Velardi, pp. xi., 381.
G. Caracciolo, *Nè Dio nè Caso o La Cosmogenesi Scientifica*, Monopoli, Ghezzi Dragone, 1884, pp. 589.
J. Hoppe, *Der psychologische Ursprung des Rechts*, Würzburg, Stuber, pp. 103.
A. Weckesser, *Der empirische Pessimismus*, Bonn, C. Georgi, pp. 74.
E. Brücke, *Ueber die Wahrnehmung der Geräusche*, Wien, Exner's *Repertorium der Physik*, pp. 155-81.

NOTICE of some of these deferred till next No.

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VII.—NOTES AND CORRESPONDENCE.

PROFESSOR SIDGWICK ON "TYPES OF ETHICAL THEORY".

Prof. Sidgwick's Critical Notice of *Types of Ethical Theory* in the last No. of MIND expresses no more dissent from its doctrine than I was prepared to expect: and his criticisms I should have preferred to weigh in respectful silence, had they been invariably addressed to opinions for which I am willing to answer. On several points however I have evidently failed to make my meaning clear to him: and chiefly from the desire to remove the false issues thus raised, I offer a few notes on his Review.

In commenting on the classification of Theories as Unpsychological—studying man as one of the dependent contents of the world, and Psychological—studying him as a self-conscious subject in himself, Prof. Sidgwick raises the question why I begin with the former, which I reject; though another rejected set, arising from a division of the latter—the Heteropsychological—is postponed to the end. The reason, he supposes, is *historical*; and proceeding on that assumption, he naturally is displeased with the *unhistorical* sequence of Plato, Spinoza, Comte, and with the detached study of each, apart from the continuous process of intervening development. The arrangement is not historical at all, but purely *logical*. In the suit between the Unpsychological systems and the Psychological, the question is, whether kosmical knowledge provides for self-knowledge: in that between Idiopsychological theory and Heteropsychological, it is, whether unmoral self-knowledge provides for moral. The former compares two wholes; the latter two sections of the second whole: and as the *genera* must be defined, before the *species* are differentiated, the very conception of the problem itself settles the order of its discussion.

In disclaiming the obligations of an historian of philosophy, I certainly forfeit his advantages: and I am very sensible of the dangers of mistake in comparing schemes of speculative thought, originating far apart in place and time. Still it has not proved impossible to produce useful monographs on particular philosophers, where the authors of them have been furnished with the critical apparatus required by a competent interpreter. And why a short series of them, selected as representatives of distinct schools, should "sacrifice the more positive part of the instruction" they have to give us and yield only negative and unprofitable criticism, I am unable to perceive. If, in attempting such a series, I have "unconsciously mixed modern categories with those of an earlier period," the fault is in the writer and not in his plan: for nothing is richer in positive instruction than the discriminating comparison of ancient with modern categories which the plan itself enforces, and in which it almost consists. The special interpretations of Plato to which Prof. Sidgwick takes exception have arisen in the process, not of mixing but of severing the elements of Greek conception and of our own; while his criticism of them, derived from the maxim that vice is ignorance and that no one is voluntarily bad, falls away of itself when the terms of those maxims are translated back from the English to the Socratic sense.

As an example of my "erroneous rendering of Platonic Ethics," "due to neglect of its historical relations," is adduced my assertion of Plato's avowed "preference of voluntary pravity to involuntary". This assertion is said to be made "on the strength of a passage in *Hippias Minor* (373, ff.); whereas," Prof. Sidgwick adds, "it appears to me certain that the argument of this dialogue—which belongs to the earliest, most Socratic, stage of Plato's development—is purely 'elenchic' and negative in its direct results: the

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positive doctrine indirectly suggested being that voluntary pravity is impossible". This passage is however only one of two to which I have referred as authority for my statement (i. 71). The other runs thus: "With regard to Truth, shall we not pronounce it but a crippled soul, that hears and cannot bear voluntary falsehood and is angry beyond measure with itself and others for telling lies, yet lives on easy terms with involuntary falsehood and feels no annoyance at being caught in ignorance, but is content to wallow in it like a swinish brute?" This is from the *latest* "stage of Plato's development"; being found in the *Republic*, 535 E.

Whether the myths of Plato express anything or nothing of his thought and character is a question too large for these brief notes. I could have hoped that Prof. Sidgwick would not begrudge me the small remnant of Freewill which I have tried to save from the other side of the throne of Necessity. But no: Do you not see, he suggests, that Plato insists on "*capacity and skill* to choose the better life among the possible alternatives"? The suggestion implies that the believer in Freewill must set capacity and stupidity on a par for choice of the better, and has no right to stipulate for insight. It is new to me to meet with such a conception of this problem. I supposed it admitted on both sides that, for right choice, an acquaintance with the relative worth of the possibilities offered, was an indispensable condition; and that the divergency arose on the ulterior point, whether such insight, instead of being simply condition, is itself determiner; or whether the soul which has it performs the part of chooser. There is much to be said for Prof. Sidgwick's refusal to accept the myth in evidence of Plato's belief. But that, in itself, it is constructed on the hypothesis of free selection at the moment of choice, is so plain from the dicta that the soul itself shall determine its own destiny, that virtue is subject to no lord, that the responsibility is with the chooser and not with God—that I can conceive of no form of words which should remove it further from doubt.

Prof. Sidgwick condemns, as "a profound misapprehension," my inference from the fact that Plato's three-fold division of virtue in the *Phædrus* had become fourfold in the *Republic*, by the addition of δικαιοσύνη, *viz.*, that in the interval he had come to recognise in *Right* something other than the perfection of *Understanding*, and could no longer leave the νοῦς of the *Phædrus* on the supreme seat of guidance. Without entering upon any general defence of this inference, I will only observe that it is by no means incompatible, as Prof. Sidgwick supposes, with the paramount place assigned to "the philosophic Reason" in the Socratic schools. It only claims for that "Reason," in Plato's later conception, a function, missing in the earlier, other than that of simple Intelligence, and approximating to that which we assign to Conscience. There would be no occasion to dispossess the word νοῦς of its supremacy; provided it were invested (like the corresponding word in many modern languages) with the meaning not only of 'knowing the true,' but of 'ordering the right'.

My treatment of Plato's Ethics as 'Unpsychological' is rebuked by more than one of my critics. Prof. Sidgwick sees that, if the philosopher had been true enough to his Metaphysics to give them their due, the epithet would have been correct. But since, in the *Republic*, his "ethical doctrine" is worked out "by the 'inferior road' of empirical psychology," I am said to have practically misplaced him. If by his "ethical doctrine" be meant his criticism of current notions, his dialectic sifting of proverbial maxims, his analysis of the Hellenic State and his remedial rules for escaping its ills, it is true that one result after another is reached by appeal to experience and manifold readings of character and life. But all this, however large a space it covers, is but tentative and subsidiary; and its result is not an 'Ethical Theory,' but an 'Ethical Art,' whose improved rules are gained by convicting the actual ones of inconsistency and failure.

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What I mean by a 'Psychological Theory of Ethics' is not constituted by processes of logical search and psychological illustration, but by taking self-conscious experience as the starting point and authentic interpreter of moral relations. It cannot therefore be attributed to any philosopher who brings his ready-made categories with him from the macrocosm, and tries them as a skeleton-key to pick the lock of the microcosm. Without discussing the vexed question of the construction of Plato's *Republic*, I may safely say that its avowed plan is to proceed from greater to less, from kosmical to human, from the State to the Individual Soul. In it Right or Justice 'is based,' as Prof. Jowett remarks, 'on the Idea of the Good, which is the harmony of the world, and is reflected both in the institutions of states and in the motions of the heavenly bodies'. 'The most certain and necessary truth was to Plato the universal: and to this he was always seeking to refer all knowledge or opinion, just as in modern time we are always seeking to rest them on the opposite pole of experience.'[1]

The term 'Unpsychological' is applied by me to Plato, not in virtue of the 'transcendency' of his metaphysics, but of his descending upon ethics from metaphysics at all: it equally covers therefore the 'Immanental' branch. Hence I do not see the appositeness of Prof. Sidgwick's remark that the 'Unpsychological' origin of a "part of Plato's ethics" "is in no way dependent on the 'transcendency' of his metaphysics: in fact it is more definitely and emphatically put forward by Aristotle whose metaphysical 'scheme' is distinguished as 'Immanental'" (p. 430).

Writing in the Highlands without access to books, I cannot yet re-examine my statements respecting Descartes and Malebranche by the light of Prof. Sidgwick's criticisms. I thank him for calling my attention to whatever seems doubtful in them. Meanwhile, I may say that I was not unaware of Descartes' wide use of the word *Cogitatio*, to include, in the human being, "sensations" and "volitions" as well as intellections. Else, how could I have used the following language in describing his doctrine? 'The essence of mind is *thinking*, whether intellectual or *volitional*' (141): 'Perception through *the senses* and imagination, he accepts as modes *of thinking*' (134): With him 'it was the presence of *the Soul*' (whose essence is *thinking*) that turned the nerve-movements into *sensations:* he habitually speaks of the passions of *the Soul*, and of the *sense-experience* as belonging to it' (137). The 'animal feeling' however (the phenomenon on which the remark turns), such as we share with other creatures, is certainly not included, but placed in antithesis to thought: for, in defining what it is that he withholds from the lower animals, he says, 'it is of *thought*, and *not* of life and *feeling* that I speak': 'I do not refuse them *sensation*, so far as it depends on the organs of the body'.[2] How this reference of sensation, now to the soul, and now to organs of a body where no soul is, accords with the opinion that "Descartes maintained from first to last a perfect distinctness in conception between psychical and material facts" (p. 431), I am unable to perceive.

Prof. Sidgwick doubts whether Descartes ever pushed his doctrine of the *independence* of mind and body so far as to hold their mutual *incommunicability*. Is not the dictum—'It is the nature of substances that they exclude each other'—"adequate evidence that he had personally arrived at" this position? Why, else, should he invoke, as he does, the Divine interposition to bring the natural aliens into concurrence?[3] With regard

[1] Translation of the *Republic*, Introduction, pp. 4, 49, First Edition.

[2] *Œuvres*, x., 207-208, as quoted in *Types of Ethical Theory*, i. 138.

[3] "Die Einwirkung der Seele auf den Leib und des Leibes auf die Seele geschieht unter Beihülfe und Mitwirkung Gottes." Noack's *Philosophisgeschichtliches Lexicon*. Art. 'Descartes,' p. 232 b.

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to the part assigned to the 'animal spirits' in the relation between mind and body, I must have spoken very heedlessly to leave the strange impression that I supposed the doctrine an invention of the Cartesian school.

In my account of Malebranche's doctrine of Ideas, I have represented him as holding that 'the difference between images or representations and ideas is the difference between knower and known,' and that 'modifications of the mind are confined to the senses and imagination, and do not enter the area of the reason'. This statement is pronounced by Prof. Sidgwick "a not unimportant error," on the evidence of a passage which includes, among 'modifications de l'âme,' not merely 'ses propres sensations,' and 'ses imaginations,' but also 'ses propres intellections'. It will be found, I believe, that Malebranche himself may be cited for both the exclusive and the inclusive enumeration; in conformity with which my next words give the alternative statement, that 'the changes and differences of sensation, representation, of emotion, impulse, *will*, are phenomena of the subject, modes of mental susceptibility, lights and shades of the personal history'. 'Will' means, with Malebranche, *affirmation or denial*, and is involved in the *assent or dissent* which every intellectual judgment expresses. The cognitive act therefore, or 'intellection,' of the individual subject *(propre)* falls into the class of 'modifications of the soul,' while the ideas cognised are not phenomenal, but eternal *objects* of Reason, subsisting in God.

Prof. Sidgwick attributes to me a preference for Malebranche over Spinoza, which he indulgently pronounces "legitimate" in a person of religious convictions, but which does not release me from the duty of exposing the cost of "philosophical consistency" at which the theological superiority is gained. I am unconscious of the alleged preference, and perceive nothing in my quoted comparison of the two to warrant its assertion. And the irreconcilable variance between Malebranche's Christian conception of God and that which he vindicated as a Cartesian I supposed myself to have adequately shown in the 'Estimate of the System' (especially in sections 2-4); where, I believe, the reader will find mention of all the inconsistencies which I am censured for failing to notice. In particular, it is contended that, while Malebranche *meant* to retain 'the characteristics of a sincere Theistic faith,' he sacrificed its essential conditions, and was brought, with 'logical certainty,' though unconsciously and by a different path, to a doctrine in 'affinity with Spinoza's'.

I share Prof. Sidgwick's regret, and feel for my reader's fatigue, at the preponderance, in my first volume, of metaphysical over ethical discussion. Judgment however should pass upon this fact by other considerations than the counting of pages. The object contemplated in studying this first set of intellectual hierarchs was, to determine the effect of descending upon the survey of human life with a vast and dominating apparatus of cosmical preconceptions, foreign to its quality, and related to it in quantity as infinitude to nothing. From the nature of the case, the reader is already pretty familiar with the group of human facts and feelings which are waiting for their interpretation: they may be trusted to say for themselves whether they sit at ease in the categories of a theory beyond them, or pine in banishment when borne over metaphysic seas to the provinces of a new world. They may be taken therefore as so far known and ask no space from the expositor. But the other term of the problem,—the doctrine of the Universe which proposes to pick them up and claim them as its own,—is an intellectual organism of complicated structure, of subtle essence, and on the largest scale. To every one but its author it is the product of another's genius, not readily passed from mind to mind, through the medium of language full of intersecting conceptions. It is no wonder if, in order to seize the character of such a system, the student has to make

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sure of his way through many successive stages of investigation, into the security of its postulates, the nexus of its many-membered thought, the completeness and equilibrium of its relations. But when at length he has grasped it, and holds in his hand the formula of its scope, it will not take him long to test its applicability to the moral experiences which it is ambitious to embrace. Hence the relative brevity of the ethical sections in my first volume. The single exception which I have admitted,—in the case of Malebranche,—unfortunately displeases Prof. Sidgwick, not indeed on account of its length, but because it reports the contents of a treatise previously unnoticed, and so mixes up exposition and criticism together. The reason is, that this particular treatise is *On Morals*: and, from this coincidence of subject, report and comment ran easily side by side, with economy of space and sparing of memory.

Prof. Sidgwick wonders that I have thought it worth while to notice Comte,—a writer who, "excluding Metaphysics from his system," could present for consideration no such "theoretic base" of ethics as alone I cared to estimate. I should have justly incurred this criticism if I had placed Comte's doctrine among the *Metaphysical* theories. But, as he is the chosen representative of the *Physical* systems, I do not see how his "exclusion of Metaphysics" forfeits his claim to consideration. It does not follow from his having no "fundamental doctrine of being," that he "excludes every possible theoretic base," that may be worth examining, for "his Art of Morals". O yes, it does, replies my critic, at least for *you*; since you acknowledge no theoretic base, except a *fundamental doctrine of obligation*, which is impossible to a contemner of Metaphysics. Comte however, no less than Plato and Spinoza, may have his theoretic base without its being mine. He also supposes himself armed with a 'Universal principle' covering 'the *ensemble* of morality'. And not only am I logically bound, as in the preceding cases, to estimate its adequacy; but, the more I see to admire in his rules of conduct, the more anxious shall I naturally be to discover whether they rest exclusively on his foundation, or find as firm a support on my own.

Turning now to the constructive chapters of the work, and, in particular, to the theory of Moral Authority, I own myself fairly open to Prof. Sidgwick's demand for more precise explanation of what he not unfitly calls my "Theopsychological" doctrine. By some unguarded use of language I have seemed to lay down as a universal proposition, applicable to all beings of whom character can be predicated, that moral consciousness carries in it, not only a preference among affections as better and worse, but a looking-up to the former as wielding authority and imposing obligation from a higher nature. Such a proposition would of course imply that the highest of all must be without the moral consciousness; that on this side the human mind and the Divine are severed from each other; and that from the conscience of man there is no passage to the presence of God. Understanding me thus, my critic may well challenge my right to speak of "the Supreme Will" as "essentially a *moral* will," and call upon me "to explain in what sense the term 'moral' is predicated in this affirmation".

I do *not* mean to claim for the sense of Duty and Authority a place within the essence of the moral consciousness *per se* and universally; but only among the modifications to which that essence is subject in dependent minds. It is in the analysis of *human* character that it comes to light as an inseparable feature: beyond the conditions of that range I do not affirm it. What then remains, as the central essence, subject to be thus modified on entering our humanity? The consciousness of a graduated scale of excellence among the springs of action in a mind capable of choice. This is the common feature of which I think as establishing 'a Divine kindred and a Divine likeness' between ourselves and God, and constituting 'an

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inward rule of right which gives law to the action of His power'. In both, it is an order of preferential love; in Him, eternal and invariable; in us, as finite partakers of His nature, emerging by partial stages, and at every one contested by earlier habit or keener feeling. It is in this experience of resistance, special to the finite and growing life, that the stringent sense of Duty,—of a *must* not grappling us from below but persuading from above, —is born within us, and with the pure harmonies of moral preference mingle the solemn tones of indefeasible Authority. This additional element is a simple adaptation of feeling to fact on the importation of the archetypal excellence into the ectypal being: in the former the moral order is immanent; in the latter it is transcendent: and the human consciousness of obligation higher than self is but the intuitive expression of this transcendency. It does not *constitute* the moral quality, but reveals its source and home. And the revelation brings a powerful and much-needed aid to the dawning apprehension of affections nobler than our own.

As I have failed to convey my thought upon this point to such a reader as Prof. Sidgwick, there must be something faulty in my exposition; and I am more anxious to correct than to defend it. Yet, lest I should seem to be now deviating into new doctrine, I must add two remarks. First, the distinction just drawn between the 'moral' in man and in God is drawn and expressly emphasised on the very page (ii. 85) to which my critic resorts for my most overstrained "analogy between Divine and human morality". There, as *passim*, it is laid down that only in a nature where there is *conflict* between the scale of worth and the scale of strength in the springs of action will the experiences and emotions arise which the word *moral* connotes for us. Hence, 'where perfect harmony exists between the order of strength and the gradations of excellence, we have the true conception of an angelic mind; it is the true "saint's rest"; the ultimate reconciliation between our personality and God's, in which the breach between the natural man and the spiritual man is taken away by our integration with the Divine will. This repose at the upper end once established, the peculiar moral emotions, of approbation and disapprobation, can no longer be directed towards the character: they are in place only among the contingencies of conflict, and have no application either to a nature where liberty has not yet begun, or to one where emancipation is complete: organic necessity is beneath them, free sanctity is above them: a creature, to be *applauded*, must be more than a creature: a God, to be (in any strict sense) *praised*, must be less than a God. These sentiments are replaced, at such an elevation, by the several degrees of admiration, love, and worship, towards which the ethical feelings ever aspire and in which they ultimately merge.' Having thus shown that only where we see temptation possible through a strife between wish and worth, can we entertain the sentiments due to the choice of duty and obedience to higher authority, I proceed to inquire how it is that the Christian ascription of *Righteousness* to God, instead of being a mere æsthetic contemplation of harmony, is so largely the expression of ethical trust, such as might be felt towards a human character of proved justice. The answer is that to us, whose thoughts have to follow the order of our own experience, the idea of inward harmony presents itself as an acme or final perfection towards which spiritual life for ever tends. We cannot otherwise reach it than by a ceaseless climb of reverence, lessening, step by step, the distance from the supreme height. Hence, we are betrayed, by a kind of psychological necessity, into a habit of religious feeling, as if 'both the Divine perfection and the saintly rest were the contrast and outcome of a conflict of moral alternatives, and resembled the repose in which a probationary drama issues'.[1] By this

[1] *Types of Ethical Theory*, ii. 85.

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'approach to God along the pathway of humanity' I have explained the frequent application to Him of terms which, as previously shown, cannot, in strict accuracy, be carried beyond the limits of human life. This explanation of an anthropomorphic habit, Prof. Sidgwick has mistaken for an adoption of it, while the exposure of its error which immediately precedes has apparently escaped his attention.

Secondly, my critic, having recognised a *half-truth* in the claim, for "moral reason," of an authority "not merely of *my own* reason," supplies for me the missing half by saying (p. 436) that "it is no less true and no less important to affirm, with the late Prof. Green, that it *is* my own, and that 'it is the very essence of moral duty to be imposed by a man upon himself'". I owe to Prof. Green so much more than the present of a half-truth, that if I disown this particular gift, it leaves my grateful memory of him quite unimpaired. But it certainly surprises me to find quoted against me words of his which I have myself discussed and appropriated as expressing, in spite of their superficial aspect of contradiction, a doctrine identical with my own. The '*self*' of which they speak as 'imposing' 'moral duty' is the communicated self-consciousness of the 'Absolute Self,'—the infinite to the finite; whereas the *self* on which it is imposed is the finite humanity which needs the regulative law. 'A man therefore is a "law unto himself," not by autonomy of the individual, but by "self-communication of the infinite spirit to the soul"; and the law itself, "the idea of an absolute *should be*," is authoritative with the conscience, because it is a deliverance of the eternal perfection to a mind that has to grow, and is imposed therefore by the infinite spirit upon the finite.'[1] After accepting the maxim thus interpreted. I did not expect to find it silently produced, as saying precisely what I had failed to see.

When the light of this relation, between the Infinite and the finite Self, is brought to bear upon the moral element in both, *i.e.*, when we read the relation downwards instead of upwards, the current language respecting the Divine Holiness loses much of the anthropomorphic character clinging to it through the opposite movement of thought. If the moral order in our self-consciousness is a miniature photograph of the Divine, liable to be blurred and distorted by finite conditions, it is impossible to exclude the idea that the end of this self-communication is fulfilled or fails according as the archetypal order abides or perishes. No one who conceives at all of 'self-communication of the infinite spirit to the soul' can regard it as indifferent to 'the infinite spirit' whether the communication is realised or spoiled. Hence, the faith which we have in an Infinite ally through all struggles for the Right, in a Divine sympathy befriending our conscience in its resistance to temptation, in a self-identification of God with all the true heroism and patient sanctities of life, is an inevitable product of philosophical conception: instead of being the magnified shadow of our own figure on the clouds, it is a selection from the solar light itself refracted in the little lens of our humanity.

From my treatment of the doctrine of Merit and Demerit Prof. Sidgwick elicits the following "paradoxical result". I have said that the merit of a right volition is proportioned to the vehemence of the temptation it resists: I have also said that from the consciousness of moral obligation a belief in retributory judgment is inseparable. Put these two propositions together, and it follows that the attraction of the temptation and the repulsion of the retribution must balance one another and leave the agent without possible merit. So at least I understand the conclusion (p. 437) "that the more intensely and unreservedly a man holds a belief which the moralist declares to be inseparable from moral judgment, the

[1] *Types of Ethical Theory*, ii. 98-99.

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more impossible it is, according to the same moralist, that any merit should attach to his moral choice!" I confess, the *reductio ad absurdum* does not frighten me: the paradox in form appears to me common sense in reality: and when I meet with a man who refrains from a guilty indulgence merely because its seductive light is darkened by the black shadow of overhanging punishment, I must still award him no higher epithet that *prudent*. That this agrees with the natural human sentiment is attested by the frequent and just reproach against the religion of mere hope and fear, —that it is only 'other-worldliness,' just as self-regarding as worldliness, only with a longer head. The hypothesis from which the paradox emerges artificially shuts out the conditions of merit, in order that it may be disproved in the conclusion. The inseparability from the moral consciousness of a belief in retribution does not mean that the sinner must have it at the moment of his sin, but only that in the total experiences of the human conscience it will assuredly present itself. In point of fact, instead of entering in advance with the conflict of impulses under temptation, it steals in at last with the offender's remorse, and leaves a melancholy appeal to *interest* with the weakened mind that has proved deaf to *right*. The revelation is in itself a falling back upon *Prudence* of the baffled line of *Duty*. When it is afterwards present to the mind in probationary moments, it cannot be on the same terms as the contending incentives immediately competing for the will, but as a surmise of the future, an augury of the unseen. If under these conditions we deem it a merit that it should prevail, it is because when wisdom, like right, is able to dispense with excitements and act upon a hint against clamorous inferiors, it marks a character of higher grade; still however only on the prudential side, except so far as it works in partnership with a preference of greater *worth*. Suppose the distant and unseen interest to become invested, by force of imagination, with the intensity of present fact, so as to call for no faith and be at no disadvantage in comparison with the instant solicitations of lower passions, and its countervailing influence will earn no recognition of merit.

In treating of the *objects* of moral judgment I am said by Prof. Sidgwick to have confounded together two distinct questions; *viz.*, (1) the relative order, in the historical evolution of human sentiment, of verdicts on outward action and verdicts on their inner spring;[1] and (2) the direction of judgment, in our mature moral consciousness, primarily upon *motive*, or upon *intention* (both being *inward*). To me, for reasons which I will immediately restate, these questions are *not* distinct, but inseparably one; the imagined "psychogonic" order from outward to inward, from "legal" to "moral," being simply impossible; laws of conduct being the mere expression of such moral feeling as can be socially enforced; mischievous acts being resented from aversion to wrong passions; and no likes and dislikes of good and evil from purely outward sources having any affinity with moral judgment. Moral evolution I do not call in question: but from first to last the scene that ever widens before its eyes and comes up for judgment is on the inner side of our humanity, of which the external drama is but the speaking symbol.

But then, granting that this has at all events now *become* true, Prof. Sidgwick complains that I have not accurately discriminated, in the state of mind of a voluntary agent, what it is that we primarily judge; but speak loosely of several things, 'spring' and 'principle' of action,—even of 'motive,'—so as to include what he calls *intention* as distinct from

[1] I learn with regret that, in dealing with this first branch of the subject, I criticised a passage which no longer appears in the 3rd edition of the *Methods of Ethics*. My MS. had quitted my hands before I knew of that edition; I believe, before its issue.

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motive, as well as what he calls *motive* as distinct from *intention*.[1] My first reply is, that the interchange and combination of these words do not indicate any vagueness in their use, but only that I have to predicate one thing of them all, *viz.*, that what they denote is subject to moral judgment, and that the differences among them do not take any of them out of that category. When therefore I am only determining the limits of that category, I may speak of them generically, or name any species by way of example. My next reply is, that I have carefully marked their distinctions: and, in the case of '*motive*' and '*intention*,' have (with a qualification here irrelevant) done so in precise agreement with Prof. Sidgwick's own statement, that the '*motive*' covers what the agent *desires*, the '*intention*' what he *designs*. This distinction is borrowed by both of us from Bentham, and furnishes a just and useful *psychological* antithesis. In the *ethical* valuation of its two terms, the three writers deviate from each other. Bentham, on the ground that there is no human 'desire' without its legitimate place, pronounced all 'motives' good, and so threw all the shades of right and wrong upon the '*intention*,' or designed effects. Prof. Sidgwick, regarding this as "paradoxical," admits 'motives' (in the form of *desired effects*) into estimate as good or bad; but contends that the primary object of approval or disapproval is the '*intention*,' or *designed* effects of the act. So preponderant is its influence, that "in many important cases the question of *motive* as distinct from *intention* is not even raised" (p. 439).

Both these doctrines assume that moral judgment addresses itself exclusively to contemplated *effects* of action. Their terms, accordingly, are all prospective; even the word '*motive*,' which in itself means no more than *present initiation* of change, is made to look forward to an *end in view*. Being unable to accept this assumption, or to exclude from relative moral judgment the instinctive impulses of which foresight cannot be predicated, I have preferred a set of terms which do not prejudge this doubtful point, but fix attention exclusively on the immediate energy out of which a chosen action issues;—*e.g.*, 'spring of action,' 'impulse,' 'incentive,' 'propension,' 'passion,' 'affection'. The word 'motive' may be applied to any one of these, no less than to "effects desired". And even where, as in mature reflection, effects *are* desired, they are so in virtue of some particular affection, in which, rather than in themselves, lies that which we approve or disapprove: so that, for purposes of moral description, I still would not desert the vocabulary which looks inward for that which moves forward. A doctrinal formula wholly made up of 'motive' and 'intention,' and limiting the former to preconceived aims, seems to me faulty, both as ignoring an instinctive type of action for which provision is required, and as withdrawing attention from the seat in which the moral quality is discerned.

On confining ourselves to the class of facts covered by the narrower antithesis, we see at once that the opposed terms are not mutually exclusive. 'Intention' is the larger and *includes* the 'motive': among the '*designed* effects' is found, of course, the '*desired* effect,' though along with it may be others, in themselves unwelcome, but admitted under the witchery of desire. Hence, in judging action by 'intentions,' we neces-

[1] To exemplify this vagueness Prof. Sidgwick says: "*E.g.*, he speaks of the 'mind estimating its own impulses and volitions,' as if the two were convertible terms". Surely, that would require 'impulses *or* volitions': the '*and*' gives *two* objects of estimation, not *one*. Cannot the mind estimate more things than one? Does not Prof. Sidgwick himself affirm "that the moral sense of mankind judges *motives* as well as *intentions*" (p. 438)?

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sarily take account of the 'motive' as one of them; and when Prof. Sidgwick says that our judgment "refers primarily to intentions *as distinct from motives*," he can mean no more than to deny any isolation of the motive from its companions, as our selected guide to a true verdict. Yet he makes statements which seem to say outright that to our estimate of a man's acts it may be no matter what the motive is, provided he keeps within a given external category; you may change the assumed motive through the whole gamut of initiatives without modifying our approval or disapproval. Thus he says:—

"We call a man veracious if he has a settled habit of endeavouring in his speech to produce in the minds of others impressions exactly correspondent to the facts, whatever his motive be for so doing: whether he is moved solely or mainly by a regard for duty or virtue generally, or by a love of truth in particular, or a sense of the degradation of falsehood, or a conviction that truth-speaking is in the long run the best policy in this world, or a belief that it will be rewarded hereafter, or a sympathetic aversion to the inconveniences which misleading statements cause to other people." [1]

If this only means that, however prompted, the supposed agent does not become a liar, but remains within the bounds of the truth-telling class, it shows how we frame and name certain categories of conduct by purely objective considerations. But it does not show that, in the award of approval or disapproval to the cases under each category, the reference to motive is dispensed with, or is secondary. Yet this is the point at issue. The motive may not matter to the name we give a man; while making all the difference to the feeling we have towards him.

For purposes of ethical classification, the inclusion of the 'motive' within the 'intention' is a very awkward feature. We want an antithesis, and we do not get it. The best way to obtain it is to take the 'intention' to pieces by another *fundamentum divisionis*, and to separate, among the 'designed effects,' those which plead for the act from those which plead against it,—the *persuasives* and the *dissuasives*. The former constitute the motive, which is named in the spring of action whose want urges us on. The latter constitute the resistance offered by some other affection, which will be hurt by our surrender. Each of these has its felt place on the fixed scale of worth; its place also on the personal scale of pleasure; and addresses our will from both positions. Our moral judgment sees at a glance which of the two springs is relatively higher: if that which carries the will, the act is approved; if that in spite of which it is done, it is condemned.

In thus reducing 'motive' and 'intention,' as previously used, to two competing springs of action, we escape the temptation to exclude or isolate or disparage either, and by letting the judgment turn upon *the relation between the two*, make all the contents a function of the result.

The ethical scale of motives which I have sketched I must leave with scarcely a word of defence. The first critical act performed on it by Prof. Sidgwick is to disturb from its lowest place, as simply inadmissible, the pure malevolence which, 'strengthened by the weighty support of Mr. Sidgwick,' I had pronounced unconditionally bad.[2] The softening plea now suggested on its behalf is put into the mouth of "the jurist," *viz.*, 'that the demand for "vindictive satisfaction" is indispensable to the effective administration of the criminal law'. I need only remark that

[1] MIND, p. 439, note, quoted from *Methods of Ethics*, 3d Ed., book iii., ch. 2, p. 222.

[2] *Types of Ethical Theory*, ii. 176-177, with the quotation from *Methods of Ethics*.

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the passion here designated under the phrase "demand for vindictive satisfaction" is not that which I have called 'Vindictiveness' and place on the lowest line, but is identical with the 'Resentment' which stands in the middle of my list. The exceptions taken to the particular cases adduced in illustration of the scale, all run up into this: You think that our approval here goes to the motive; I think it goes to the consequences. Arbitrating evidence between these opinions is doubtless difficult to find, or at least to present in any palpable form; because the approving verdict directed upon external consequences will usually concur with that upon comparison of motives. Nevertheless I am convinced that, if the former were suppressed from view, while the latter were clearly perceived as inward phenomena of character, such a valuation as I have assigned would assert its presence.

Prof. Sidgwick is unable to reconcile my approximate adoption of Kant's Ethical Theory with my dissent from that of the English 'Dianoetic' school, which, in the person of Price and even of Clarke, came near to him. Having defined my exact relation to both with such poor success,[1] I can hardly hope to justify my loyal feeling towards the philosopher of Königsberg. The case stands thus. Our Dianoetics referred all moral ideas to the *Reason*, and made all moral relations objects of the Reason—the same Reason which apprehends, in itself and in its relations, whatever *is:* for Reason was with them synonymous with *Understanding;* and 'the proper objects of the Understanding,' as Price remarks, 'are truth, facts, real existence'. Ethics, in this view, was no less a *science* than Chemistry: it stood on the same plane with Mathematics, and might be perfected by the resources and processes of Speculative Intelligence which produced the *Principia* of Newton. Accordingly, the whole effort of these writers is directed towards the extension of the Intellectual categories over the area of Morals and the removal of any supposed boundary between them. Given the conditions of knowledge, the ethical conceptions and phenomena are perfectly provided for. Kant, on the other hand, affirms the incompetency of the Speculative Reason to supply or to warrant the fundamental categories of Morals; and refers us to another source within our nature for our idea of what *ought to be*, with all that it involves. It is true that by allowing it to keep the words 'Vernunft' and 'Erkenntniss,' with the distinguishing epithet '*Practical*,' he nominally detains it within the cognitive circle. But by limiting it to an object other than Price's 'proper objects of the Understanding—truth, facts, real existence,' he shows that it has no contact with what the English school means by 'Reason'. 'It is enough,' he says, 'for me here to explain *Theoretical* cognition as that whereby I apprehend what exists; *Practical*, as that whereby I conceive what ought to be'. From his mode of treatment it is evident that this Practical Reason is identical with the *Moral Self-consciousness;* and that it retains for Kant its *Rational* aspect simply because, by analysing its experiences, it yields up as its postulates certain beliefs, without which its feelings of Obligation, of Guilt, of retributive Justice, would be illusory. The disengagement of these beliefs and organisation of them as a system involve methodical thought and save them for intellectual survey.

Price, as I have pointed out, hit upon the distinction between 'Speculative' and 'Moral' Reason, and so far 'approached Kant's ethical position'. But it comes in near the end of his Treatise, on which it has no influence whatever: and his Preface, written later, unreservedly relapses into the Dianoetic view.

Kant's doctrine, on the other hand, is drawn not from search among the data or processes of the Understanding, but from direct and separate

[1] *Types of Ethical Theory*, ii. 442-443.

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analysis of the Moral consciousness. It is therefore, in its essential principle, 'Idiopsychological'. And it results in accepting, instead of explaining away, the leading moral ideas by which the sphere of right and wrong is marked off from that of truth and falsehood.

Prof. Sidgwick's note on certain of my statements about Hutcheson will be valuable to me when I can refer to the passages. Should I have the opportunity, I shall thankfully correct any error into which I may have fallen.

JAMES MARTINEAU.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—The concluding meeting of the sixth session of the Society was held on June 15. All the members of the Executive Committee were re-elected for the ensuing Session, which commences Monday, October 26, when the President will deliver an Address on "Philosophy and Experience". The following program for the Session was also agreed to. Five evenings to be devoted to the discussion of Kant's *Grundlegung der Metaphysik der Sitten*, and of his *Kritik der Praktischen Vernunft;* and the remaining evenings to original papers to be contributed by members. Program-cards for the session, and information concerning membership of the Society, may be had by application to E. Hawksley Rhodes, Hon. Sec., 22 Albemarle Street, London, W.

The "Further Illustrations of Primitive Thought" in Appendix A. of Mr. Spencer's *Principles of Sociology* have, in a 3rd edition just issued, been increased threefold. They now fill 52 pp. and are so arranged into a coherent body of evidence that, "even by themselves, they would go far to establish the general doctrine set forth in the preceding volume".

It will be seen below that the *Revue Philosophique* has begun to publish the Proceedings of a "Société de Psychologie Physiologique". The Society was founded in the spring with the object of studying psychical phenomena, both normal and pathological, by the method of observation and experiment; and is to consist of 30 titular members residing in Paris, with corresponding members in the departments. M. Charcot is President; MM. Janet and Ribot, Vice-Presidents; M. Ch. Richet, General Secretary; MM. Ch. Féré and E. Gley, Secretaries; M. Ferrari, Treasurer.

Prof. A. Vera of Naples, the well-known Hegelian, has just died.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XIX., No. 1. S. W. Dyde—Bradley's *Principles of Logic* (iii.). L. J. Block—Platonism and its relation to Modern Thought. C. E. Lackland—Henry James, the Seer. S. E. Blow—Dante's Purgatorio. W. H. Kimball—The Human Form systematically outlined and explained. G. H. Howison—Hume and Kant. Notes and Discussions.

REVUE PHILOSOPHIQUE.—An. X., No. 7. H. Beaunis.—L'expérimentation en psychologie par le somnambulisme provoqué (i.) Ch. Secrétan—La femme et le droit. Variétés (H. Marion—L'individu contre l'état d'après H. Spencer. P. Gauthiez—La mort de Giordano Bruno). Analyses et Comptes-rendus. Société de Psychologie physiologique (E. Gley, Ch. Richet, P. Rondeau—Notes sur le hachich. G. Guéroult—Sur un fait de jugement inconscient dans les localisations auditives). No. 8. H. Beaunis—L'expérimentation &c. (fin). G. Lechalas—Les comparaisons entre la peinture et la musique. Ch. Secrétan—Évolution et liberté. Notes et Discussions (Lombroso, G. Tarde—La fusion de la folie morale et du criminel-né). Rev. Gén. (P. Tannery—L'exégèse platonicienne). Ana-

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lyses, &c. Rev. des Period. No. 9. Dunan—Les théories métaphysiques du monde extérieur. P. Lafargue—Recherches sur les origines de l'idée du bien et du juste. E. Chauvet—Un précurseur de Bell et de Magendie an 2e siècle de notre ère. Notes et Discussions (E. Beaussire—L'observation interne et l'observation externe en psychologie). Analyses, &c. (J. Royce, *The Religious Aspect of Philosophy &c.*). Notices bibliog. Rev. des Period. Société de la Psych. phys. (H. Beaunis—Influence de la durée de l'attente sur le temps de réaction des sensations visuelles : Suggestion à 172 jours d'intervalle. Ch. Richet—Des rapports de l'hallucination avec l'état mental).

La Critique Philosophique (Nouv. Série).—An. I., No. 6. C. Renouvier—Examen des *Premiers Principes* de H. Spencer (suite). Ch. Secrétan—A. Laggrond, *L'univers, la force et la vie.* F. Pillon—Vidal, *De la croyance philosophique en Dieu.* L. Dauriac—Superstitieux et prédéterministes. . . . . F. Paulhan—Lettre sur le rapport de ressemblance. E. Rabier—Lettre sur l'association par ressemblance. . . . Notices bibliog. No. 7. C. Renouvier—La morale criticiste et la critique de M. A. Fouillée. F. Pillon—E. Boutroux, *Socrate fondateur de la science morale.* L. Dauriac—M. Ravaisson, philosophe et critique. F. Pillon—Réponse aux observations de M. Rabier sur l'association par ressemblance. Notices bibliog. No. 8. V. Egger—Intelligence et conscience : L'esprit est irréductible à l'âme. C. Renouvier—La morale criticiste, &c. (ii.). . . . . Notices bibliog.

La Filosofia delle Scuole Italiane.—Vol. XXXI., Disp. 3. L. Ferri—Di alcuni uffici della filosofia nelle condizioni morali del nostro tempo. P. L. Cecchi—Pedagogia. A proposito di una nova legge sull'istruzione secondaria, osservazioni e studî. B. Labanca—Storia critica delle religioni: Giudaismo e Cristianesimo. La filosofia negli Istituti scientifici di Scienze, Lettere ed Arti. Bibliografia, &c.

Zeitschrift für Philosophie, &c.—Bd. LXXXVII., Heft 1. H. Bender—Ueber die Idealität von Raum u. Zeit. A. Koch—Erkenntniss-theoretische Streifzüge mit besonderer Rücksicht auf Günther. E. Zöller—Der schwedische Philosoph Samuel Grubbe. Recensionen.

Philosophische Monatshefte.—Bd. XXI., Heft 8. A. Harpf—Schopenhauer u. Goethe. G. Knauer—Die Dinge-an-sich, das "Ausser-uns," das für unsere Erkenntniss "Gegebene" u. unsere Erfahrung. Recensionen. Litteraturbericht. Bibliographie, &c. Heft 9, 10. R. Geyer—Darstellung u. Kritik der Lotze'schen Lehre von den Localzeichen. J. V. Billewicz—Summarische Darstellung der Fundamentalsätze der K. F. E. Trahndorff'schen Philosophie. Recensionen. Litteraturbericht. Bibliographie, &c.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. XVI., Heft 1, 2. H. Siebeck—Das Verhältniss von Leib u. Seele. M. Hamburger—Ueber das Princip der Sittlichkeit. C. G. Büttner—Die Temporalformen in den Bantusprachen. A. F. Pott — Verschiedene Bezeichnung des Perfects in einigen Sprachen u. Lautsymbolik (Schluss). V. Kaiser—Der Platonismus Michelangelos (ii.). Beurteilungen.

Vierteljahrsschrift für wissenschaftliche Philosophie.—Bd. IX., Heft 3. W. Ribbeck—Studien über den Pessimismus. G. Ceica—Ueber die Existenz von unbewussten psychischen Zuständen. Ths. Achelis—Die Theorie der Seele auf ethnologischer Basis. A. Döring—Ueber die Möglichkeit Logik u. Erkenntnisslehre gesondert darzustellen. E. Jessen—Ueber Leugnung causaler Verhältnisse zwischen Physischem u. Psychischem. Anzeigen. Selbstanzeigen, &c.

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